NOVEMBER, 1877.

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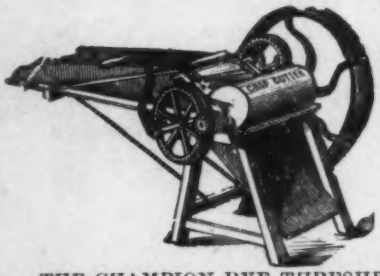

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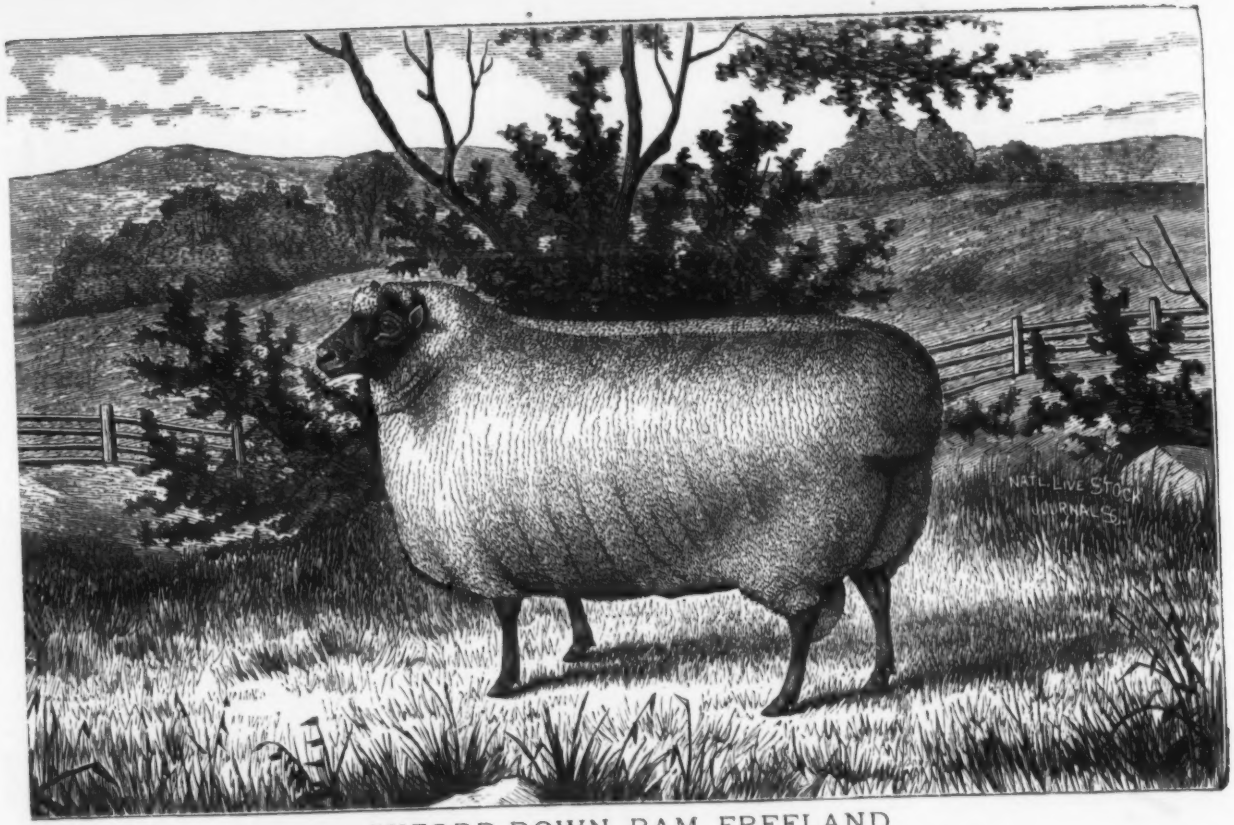

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THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. VI.—No. 11.] NOVEMBER, 1877. [NEW SERIES.

Benjamin Hallowell.

Messrs. Editors American Farmer:

The best preface I can make to the following sketch will be a quotation from your recent letter which called it forth. You write under date September 19th, 1877:

"Can you give us for our October issue a sketch of the life and services, as an agriculturist, of your late brother-in-law, Benjamin Hallowell? Doubtless, in other journals there will appear notices of his career and achievements as philanthropist, philosopher and scholar; but it would be appropriate for the *Farmer* to have a memoir of him as an investigator of science as bearing upon the art of agriculture; of his success as a practical farmer, and of his influence in stimulating to improvement in the methods of that art, not in his own vicinity merely but in the whole of this and in other States."

The subject is so clearly outlined in the foregoing request that I have nothing to do but to make a corresponding reply; of which, the chief difficulty lies in the abundance of the materials, and the scarcity of time properly to collate them.

His Early Life.

Benjamin Hallowell was born in Montgomery County, Pennsylvania, on the 17th August, 1799, and reared to the age of 15 on a farm. By the death of his father, while he was yet an infant, he was left to the charge of his mother, who was a woman of uncommon energy and force of character. Like many others who afterwards grew into a manhood of great physical power, he was a puny and delicate child; and the mother had often to hear from consoling neighbors such expressions as these: "Benny is so feeble, thee will scarcely raise him; he will not do for a farmer; he had better be put to learn a trade." This suggestion was carried out by placing the youth with a carpenter when he reached the age of fifteen; though in the meantime he had received and profited by the fatherly care and counsel of a wise and skilful farmer,—his venerated uncle, Comly Shoemaker. While engaged in his new business at some work requiring him to mount a long ladder, the man who was holding it below suffered the foot to slip, and our young carpenter fell to the ground twenty feet, receiving a severe sprain of the ankles, from which he never wholly recovered. This accident served to unfit him for the employment chosen for him, as well as for most other sorts of manual labor.

The prospects of the youth at this period were apparently about as hopeless as could well be imagined. Or rather, he was now brought into a situation which has proved, the world over, to be the very best sort to stir up, animate and develop a young man's latent powers,—when they happen, as in this case, to have real existence. He returned to school and study. The opportunities for instruction, in those times and that locality, were very limited; and it happened that the subject of our sketch in his boy days had taken an extraordinary antipathy to the school which his careful mother had compelled him to attend. I have heard this profound scholar, whose life was destined to be so closely identified with schools, relate with great glee the schemes by which he endeavored to escape the dreaded duty, and the rigid maternal firmness that brought them all to grief.

The early aversion to school was changed into a very opposite feeling, when at the age of 18 he was enabled to secure a seat in the celebrated Mathematical School of John Gummere, of Burlington, New Jersey. There his time was so well employed that, after two years of hard study, he received the appointment of teacher in the newly-established Boarding School of Friends at Fair Hill, Montgomery County, Maryland. He returned to Pennsylvania and taught awhile at West Town Boarding School; but the attraction southward prevailed. In the year 1824 he was married to Margaret E. Farquhar, whom he met as a teacher at Fair Hill; and proceeded in the autumn of that year to carry out a well-matured plan of establishing a

Boarding School at Alexandria, D. C.

The earnest business of his life was now begun; but for several years it was full of struggle and difficulty. Coming into Virginia

from the North, in the plain Quaker garb, possessed of very moderate means, bringing no high-sounding recommendations, with none to patronize and few to befriend, success must necessarily be slow, though with such a man it was bound to come. At the end of six years, although in that period several distinguished names (among them, that of Robert E. Lee) were enrolled on his catalogue of scholars, he stood financially, in spite of strict economy and able management, just where he began.

This is not the place to speak of Benjamin Hallowell's educational career and its full measure of success; nor of his public services in the town where he lived. Enough to say, both found the appreciation they deserved. We turn to consider the portion of his life-work relating to agriculture,—the immediate concern of your inquiry.

Very many, (may I not say nearly all the most active and useful men in all ages,) after a busy life spent in the city, have looked longingly to the country as the spot where they should find the rest congenial to declining years. Benjamin Hallowell did not wait for that period to gratify his desire of country life; neither did he come to the country for rest. With him, change of occupation was all the rest he desired or took up to his very latest year. Though at this time only 43 years old, it might be justly claimed that he had already accomplished an amount of work enough for an ordinary life, yet he was scarcely in the middle of it. Much more remained for him to do, of no less importance and interest than his previous labors.

Commences Farming at Rockland Farm.

It was in the summer of 1842, having made some preparations in the way of building and improvements, he took up his residence at his farm of Rockland, situated in the neighborhood of Sandy Spring, Maryland, and containing about 150 acres. He came to the country to work, and found himself at a place where there was plenty to do. I am confident that Benjamin Hallowell would never have been satisfied to take an improved and fertile tract, and go on cultivating it according to old approved methods. The work actually before him was much more congenial to his disposition, opening a wider field for the exercise of his natural abilities and previous acquirements. "Reclaiming worn-out land," as the work is usually styled, does not give a correct idea of the nature of the enterprise. Rockland farm was well worn-out, it is true; but it never could have made just pretensions to fertility: a soil the debris of the simple primary rocks, a stiff clay "freezing twice a year," (as the farmers say,) full of flint stone, wet and swampy even in the uplands. As to its productions, I heard it said by a person who did not exaggerate, that at the time Benjamin Hallowell took possession of the farm, if all the things of plant nature, except trees, growing upon it, including briars, sedge and poverty grass, had been cut and raked together, they would not have made more than one wagon-load. In short, it was a hard specimen, and rather below the average of the poverty-stricken fields of *old* Montgomery, long known to fame.

His Practical System of Improvement.

In looking over the prospect shortly after coming to the country, Mrs. Hallowell's view was particularly arrested by two large bare spots, where even the sedge or poverty grass refused to grow, and she plaintively observed, "if I could see those two places once covered with grass, I think I could be content." Well, she did live to see the fields of Rockland covered with crops of grass yielding in some seasons over 100 tons of good hay.

But that is going ahead rather fast; there was a good deal to be done before arriving at such results.

Benjamin Hallowell brought to the country (along with a proper portion of necessary capital) some practical knowledge of farming, the recollections of boyish years, with a great deal of determination to improve the soil and a firm faith that it could be done, a mind replete with intelligence, and a thorough acquaintance with the sciences directly connected with the art of agriculture. It was another circumstance very favorable to successful effort, that he came to Sandy Spring just at the time of the "great awakening," (as it may well be termed,) and assisted in pushing it on. Our farmers had been fairly roused to see that *something must* be *done* for their suffering country.

Limestone had been discovered in the adjoining county, and vigorous exertions were made to profit by its use. So high had the spirit mounted, that by the year 1842 there were nineteen limekilns built within a circle of two or three miles. But before the effect of lime could be fairly tested, those two grand fertilizers, bone and guano, destined to revolutionize the agricultural system of old countries, were brought into use,—guano in '44, bone two or three years earlier,—and the slower operation of lime fell into disrepute. While these reviving influences were in a nascent condition, B. Hallowell came into the neighborhood, and entered with his accustomed energy and spirit into the efforts for improvement, which were soon crowned with conspicuous success.

The methods adopted in his course of improvements are set forth in a letter addressed to the editor of the "*Southern Planter and Farmer*," published February, 1860. The first proceeding, as there stated, was to get the wet places dry by underdrains, of which he made nearly a mile in one eight-acre lot. He goes on to say, "I then worked the ground well, gave it a dressing of ten bushels of bone to the acre, and sowed with timothy. The cash outlay for work and manure on the eight acres was $136."

"My neighbors passed some jokes at my expense, I being a city farmer, which I endeavored to bear with becoming equanimity. The season previous to this improvement, the produce of the whole eight acres was a small wagon-load of swamp hay; and the first year after, I had twelve tons of good timothy hay and three bushels of timothy seed, and the next year fourteen tons of hay and about the same quantity of seed,—so that I got the full amount of my original outlay for improvement back, clear, every year, above the value of the previous product of the lot, for several successive years.

On the upland I first tried lime; but there being no organic matter in the soil, I could perceive no benefit whatever from it. The plan I finally adopted was to take one new field each year, grub it, drain it, remove the stones, break it up well in the fall or winter, and in the spring give it a dressing of ten bushels of bone to the acre, and put it down in oats and clover. I permitted the clover to grow and fall without a hoof going on it that season and the next, my object being to get an accumulation of organic matter in the soil. When the clover seed was fully ripe, a little over a year after the oats were cut, I turned the clover under well, plowing the land every time a *little* deeper, so as *gradually* to increase the depth of the soil; dressed the land with 10 bushels of bone and 200 pounds of guano to the acre, and put it down in wheat. The wheat would average 25 bushels per acre. The clover from the seed turned under, would generally be a good crop, which we mowed once, and then permitted what grew afterward to fall, still not pasturing it. On this sod I put, at any time convenient within a year after the wheat came off, about 50 bushels of lime to the acre. A corn crop came next, then oats with bone, then wheat and timothy with more bone and guano."

It seemed worth while to give the readers of the *Farmer* this account of Mr. Hallowell's system in his own words. It was effectual in accomplishing the object, and he tells us that it paid.

Although approving of the liberal use of the two great fertilizers, bone and guano, in the renovation of worn-out soils, Mr. Hallowell entertained fears regarding their continued beneficial influence. He spoke with an earnestness almost prophetic of the inevitable disastrous effect in the future, of carrying off large crops of hay whose growth had been stimulated by the concentrated manures now in use; and it was a favorite doctrine, deeply impressed on his mind, that measures must be taken by which the cities may return the fertilizing materials which they find so troublesome to dispose of properly, and which would bring salvation to the country.

Now, it is plain to be seen, from the foregoing statement, that the methods pursued by this distinguished mathematician and chemist were of a very practical order; and a due regard to truth requires me to say that theories built upon conclusions of pure abstract science were never greatly relied upon in conducting his agricultural operations. Thus, in the address delivered at Leesburg, before the Agricultural Society of Loudon Co., October, 1852, he holds this language: "I have been requested to state my opinion of the advantage of analyzing soils with the view of determining what manures to apply for their improvement, and I do so with pleasure, having had some experience in the practical part of the subject. I place comparatively little reliance upon any benefits likely to arise from a general analysis of soils, though such analysis may sometimes be very beneficial in determining the presence of hurtful ingredients. If the money paid for analyzing a soil were spent in the purchase of guano, crushed bones, ashes or lime, with which to experiment on different crops on a small scale, it would be likely to lead to much more satisfactory and profitable results." (I remark by way of parenthesis, that in the sentence following the above passage he strongly recommends the "reading of some well-conducted agricultural paper," and especially mentions in terms of praise the *Southern Planter* and the *American Farmer*.)

Science in Agriculture—Experimental Station.

But it would give an unjust and unworthy impression of Mr. Hallowell's opinions if I did not add that he considered the application of science to agriculture, as well as to most other concerns of life, to be a matter of vital importance. No man had more exalted and comprehensive views of the domain of science. He regarded it as extending to and including the most common and the loftiest objects and events. Everything must be brought to its tribunal and judged by its immutable, eternal laws.

All correct methods were scientific; all were false that did not conform to scientific rules. So that with him "applied science" was essential life. How finely does he speak in the address just quoted of "the elevation of agriculture as a science to the true dignity to which its importance entitles it." In no other way could he conceive that the business of the farmer would be raised to a pursuit worthy to employ the highest faculties of the mind. Still it was a marked feature in his public addresses at agricultural meetings as well as in his private discourse,—this preference of facts established by experiment to conclusions drawn from mere theory. Hence the recent plan of establishing experiment stations came very near to his ideal. An institution with ample space suitable for the various experiments which are required to test the numerous questions of practical importance to farmers, furnished with all necessary appliances, and directed by persons thoroughly imbued with the proper spirit, and qualified to conduct experiments according to the true scientific method, must be, according to Mr. Hallowell's principles, the very best establishment by which the State can render to agriculture the aid which is its due.

He is Chosen President of the Agricultural College.

In the autumn of 1859, Benjamin Hallowell was unanimously elected first President of the Maryland State Agricultural College, without his knowledge or consent. As the brief connection which he had with this institution formed an event of some importance in his agricultural career, it may not be without interest at the present time to give a statement of his experiences there, as they appeared to his own mind after the lapse of some years. It is taken from an autobiographical sketch written two or three years ago, for the gratification and benefit of his children and grandchildren:

"I had desired for over 30 years to be connected with an educational establishment in which the *muscles* would be trained simultaneously with the *intellect*, in the various mechanical industries, and agricultural and horticultural pursuits, as budding, grafting and training vines, fruit trees and shrubbery, the propagation

of flowers, &c., believing that in these employments might be advantageously and pleasantly employed, *under skilled directors*, that vast amount of waste energies that I had witnessed among boys especially, as being the occasion of nearly all their rudeness and disorder. When the Maryland Agricultural College was about to be established, I was requested by one of the trustees to write out pretty fully my views of what should be the location, and the objects and aims of such an establishment. I complied with the request to the best of my ability. In regard to locality, I recommended, as the result of my experience, that it should *not* be near a city, nor too convenient to a railroad station. I then gave my views of the subjects to be taught, and of the objects and aims, as already expressed." After mentioning his unexpected election to the presidency, and his hesitation about accepting the honor, he goes on to say: "The plan and objects of the college, though *not* its *location*, seemed to be a step in the direction of what I had long desired, and finding nothing in the regulations that required duties of the president which I could not conscientiously perform, I accepted the office; and I have never regretted it, though I was able to do but little.

"I entered upon duty in the college about the middle of 10th month, 1859. The college had opened about six weeks before, under three professors, who had apparently been waiting for me, as president, to organize the institution. From this long period that had elapsed without regular order or discipline, or a classification of the students, a very heavy burden was devolved upon me; and in the earnest effort that I made to effect a proper organization, and secure healthy order and discipline, my health gave way in about a month, *irretrievably* (as I then thought,) and I resigned the presidency unconditionally. But, in the short time I was at the college, I had an opportunity of trying two experiments, which were an entire success. The students had each a regular working outfit, complete, (they have one *now*, but quite a different sort.—ED.) kept on a pin, with hat above, and shoes and boots below; so that the change could be made in a very short time. They went out daily, in classes, to their employment, for an hour at a time, with just as much regularity as the classes in other studies, changing in the same way at the ringing of the bell. In this employment they were under a *skilled director*. The first experiment was in constructing an ice-pond and ice-house. There was a small stream running down through a thicket in a ravine, in front of the college building, and a little distance from it. The students were shown a nice place to make a breast for the dam, and they were told if they would build it and excavate an ice-house they might have a convenient place to skate the coming winter, and as much *ice* as they wanted to cool their drinking water next summer.

"At it they went with as much zeal as they could have felt in a game of base-ball. It was amusing to see the efforts of the large students who had never handled an axe before, cutting down bushes and trees six to nine inches in diameter, and the awkward manner in which they would at first handle the spade or shovel; but they improved rapidly, and finished the enterprise to *entire satisfaction*.

"The next experiment was with a strawberry-bed, and the result was equally satisfactory.

"I became perfectly convinced that *all* the *labor* on a farm of 150 to 200 acres, except perhaps the original breaking up of the sod, could be performed by 70 or 80 students, *under suitable direction*; and also the mechanical work in farm-repairs, if a wheelwright and blacksmith were among the directors, and managed with *proper tact*; so that the work would have a *relish* with the students ultimately, by the competition evoked, even greater than that which attends the ordinary college games."

Such were the firm convictions in regard to the practicability of sustaining a genuine school of agriculture, held by a man whose peculiar abilities, acquirements and experience eminently qualified him to judge. The importance of the subject at the present time seemed to render it proper to occupy a large portion of my space with opinions that may have some weight with those who are interested in arriving at sound conclusions with regard to a leading question of the day. I return to an account of Mr. Hallowell's further labors in the cause, at his country home.

Unites with the Farmers' Club—His Addresses and Letters.

About a year after coming to the neighborhood, he was one of the foremost in assisting to organize "The Farmers' Club of Sandy Spring." This association held its first meeting at the house of Richard T. Bentley, Feb. 12, 1844, and has continued to keep up its monthly assemblies with great regularity down to the present time. It is hardly necessary to say that he was a useful and active member, attending the meetings faithfully until recalled to his former field of action in Alexandria, when he gave up his place to his son, being continued as an honorary member to the day of his death. His suggestions in the club, always advanced with modesty and listened to with attention and respect, form a valuable feature in the recorded proceedings of the venerable body. He received many letters from various sections of the country, and the full answers which he sent were frequently published in the magazines and newspapers.

Of his published addresses, that which was delivered in Leesburg and preserved in pamphlet form is probably the most elaborate. Few productions of the sort cover a wider field, or are more replete with varied suggestions on matters of practical interest. An address made in 1846, at the first regular meeting of the Agricultural Society of Montgomery County, gave much satisfaction to the farmers who heard it. Gentlemen in different sections of the county have expressed to me their gratification at the clear and simple manner in which he illustrated some of the disputed or doubtful questions always coming up amongst the tillers of the soil. "It was not near so scientific," (according to their peculiar notions of science,) "nor so full of learned theories, as the addresses of distinguished legal gentlemen who are usually chosen to instruct us farmers in our art." Some of the illustrations used by him on that occasion are

still referred to, as having touched the point they were aimed at. Benjamin Hallowell was essentially and always a teacher: with Agassiz, he deemed there was no higher calling, and he certainly craved or sought no higher honor.

In one of his discourses he enumerates the qualifications of a good farmer, and among them places a proper care of the animals under his charge. He always manifested a great tenderness toward this part of the creation, "having experienced much pain at the killing of young animals and poultry, until his reason showed him the justification of the act."

His Views on Labor and Laborers.

With such tenderness toward laboring animals, it would have been strange if he had failed in respect for laboring men. In fact, I never knew anyone who showed so much. It was manifested in his whole manner and conduct, as well as in all his words. With him, the laborer was worthy not only of his hire, but of respect and kindness. The man was a brother; his work, the foundation of all value. He was himself indeed a working-man—who ever caught him idle?

He held views upon the labor question, some of which are shadowed forth in the Leesburg address, that go far toward getting at the root of the matter; yet he was by no means "a radical" in the popular sense of the word.

His deep interest in *really productive* labor, and the conviction that it is nowhere found in such perfection as on the farm, was one of the chief sources of his high estimate of country life.

Conclusion.

In one of his addresses he uses this expression: "From the experience I have had, there is no occupation which requires a higher order of intellect, more varied information, greater forecast, contrivance, promptness, than that of practical agriculture; and there is no occupation more calculated to develop and cultivate the finer feelings of our nature, and to foster integrity and virtue." The beauty of the country was a constant source of delight. The whole field of nature, from flowers to stars, afforded him objects for continual study, and themes for frequent and eloquent discourse. "I do not know," said he on one occasion, "that I ever experienced greater gratification of the kind than I did in a ramble this morning. The freshness and purity of the air, the enchanting mountain scenery, the hills covered with verdure, and the fields around, occasioned a feeling of enjoyment and delight beyond my power to express."

Still more highly prized by this profound scholar, "whose science led him not to doubt but to adore," was the privilege enjoyed by the tiller of the soil, "of being brought continually and absolutely to feel his dependence upon the Giver of all good."

It would be indeed a miserably defective and barren sketch of the life of Benjamin Hollowell, that left out his overflowing love to his fellow-men, and his overruling faith (as expressed by his favorite Cowper,) that

> "There lives and works
> A soul in all things, and that soul is God.
> Happy who walks with Him!"

WM. HENRY FARQUHAR.

Sandy Spring, Sept. 26, 1877.

Waste of Fertility by Washing Rains.

Messrs. Editors American Farmer:

It is probable that on most large farms in the South there is not less than four or five hundred dollars lost annually in the waste of manure, and on most small ones fully half that sum. This waste can hardly be computed when applied to whole States. In this way millions are lost to the nation and hundreds of thousands to individuals.

The next great loss proceeds from the partial or entire failure to accumulate manures. Washing rains, which by inattention are allowed to sweep off the rich deposits and surface soil from the fields and leave the same along the already rich borders of water-courses is an evil so common and so palpable that it is strange that agricultural writers do not more earnestly insist on strict attention to this matter. As an instance of the fertilizing ingredients carried off by rains, (which in this case were left in a proper place,) Mr. John W. Murray, of Carroll County, Maryland, as reported in "*Westminster Advocate*," in 1873, raised on one acre 30½ barrels (152½ bushels) of shelled corn. He states that the land was so situated that it received the washings from the road and from his barn-yard, and had been in grass for fifteen years; and this accumulation of fertility enabled the soil to produce the large amount of grain mentioned above.

The magnitude of the injury caused by rains and floods being conceded, it becomes us as provident farmers to call to our aid all the means, whether scientific or otherwise, that will enable us to apply successful remedies.

First of all, the location of the barn-yard should receive our *particular attention*. All must know that here is the fountain from which exudes the rich food that should go to their crops, instead of being dissolved and carried into the torpid streams. Next in importance, if not first, is the deep stirring of the soil. Deep plowing better secures the retention of moisture, warmth, friability, and the fertilizing agents contained in the air; and, above all, the additional capacity for absorption in case of heavy rains, and reserving the surplus moisture for the benefit of the crops, and enabling them to stand the severity of our summer droughts.

Of course the character of the soil and the elevation of the fields have much to do in increasing or modifying the losses from heavy rains. The farm with undulating hills and loose or sandy soil is liable to the greatest injury; and the utmost efforts of the owner should be directed to the retention of his soil.

Underdraining, when practicable, is another special remedy. The cost being considerable, the question whether or not it will pay is one which cannot be settled by writing or talking. Every farmer must settle it for himself, he being the only proper umpire; but, in common tillage, embracing gentle slopes and marshy or flat lands, he *must* drain and ameliorate his fields as fast as his means will allow, as nothing towards permanent improvement is of more importance.

Farm roads that are not thrown up as they should be, should have the water turned off at suitable intervals. Even common foot-paths on

slopes, if much used, will become gullies if this is neglected. Incipient gullies should receive timely attention. There are other small matters and devices that the careful farmer should employ to keep the rich light mold secure from washing rains. Most farmers are aware of the value of these hints, but, as in other important matters, they generally need "line upon line." J. FITZ.

Keswick Depot, Albemarle Co., Va.

Thrift and Economy.

Because a man belongs to a vocation it does not follow that he must not read or write about anything else. There are things that pertain to all callings, and should be known by everybody. What signifies it, if a man knows one thing well and nothing else? If he could make money and did not know what to do with it or take care of it, or could take care of it if he only could make it? Agricultural papers should treat mostly of rural affairs and interests. Political or domestic economy do not immediately pertain to them; yet they are not necessarily excluded. Agriculture is the foundation on which the well-being of communities rest,—you might as well talk of a world without light and heat as without agriculture.

It is readily admitted, for the benefit and support of population, that the earth must be cultivated, and without its production man and many valuable animals would become extinct. The inhabitants of the earth are dependent on each other, and form a chain the links of which are dependent on each other. That country in which all prosper and the majority are independent, would be considered well governed and its people industrious and thrifty.

It is often said the man that works the hardest is not always the richest, and that there is only sixpence difference between him that worked and him that played, and that he who played often got it. The inference is that there is somewhat besides labor necessary to prosperity: the art of saving and making a little go a good ways. Property, like time, every one has more or less of; but all do not put them to the same good uses. To prosper, one should save as well as make,—you cannot save and at the same time waste. Two men may start out in every respect alike; the one becomes rich whilst the other is continually needy. The one looks ahead, provides against contingencies and ends independent; the other spends as fast as he makes and ignores the future. As with individuals so with communities. Something is equally necessary as labor, and that is frugality. The maxim should be, if possible, "lay by something every day." These savings in time become important. Instinct impels even dumb creatures to be provident, and they lay by for winter. In the life time of man there are prosperous times, as well as general depression, when money, provisions and the necessaries of life are scarce and hard to be obtained. I have noticed that those who are habitually idle would be so whether money was scarce or not. Some want certain wages or do nothing; whilst others would work for 25 cents per day and their board, and contend that it was better to make little and their board than to do nothing and find themselves. How is it with the farmer? How would he or the community fare if he would not sow or plant unless he could grow so much and obtain a certain price? The way and the duty is to go on with the hope and belief that matters would be better. There must be an incentive to making and saving; the practice of laying by something is bound to come out right. How would all the great edifices, enterprises and improvements, national and individual, have been begun and carried on without industry and economy? Take away the uses and enjoyments of these things and you do away with the incentives. Many of the idle and dissatisfied affect to decry enterprise; are willing to enjoy the earnings of others without any exertions of their own. The surest way is for every one to pitch in and work his way; economise and place his surplus out judiciously,—make what you can honestly and take care of it. In this world there is always a living to be made, if not a fortune, and something to do everywhere. Fortune attends some men, misfortune others. The wheel of fortune continues to revolve; fortunes rarely remain in families longer than the third generation. Farmers fare as well as other classes; they depend on the earth, the seasons and their own exertions. In fine, the industrious, enterprising and provident are almost bound to succeed. The lazy, inefficient and careless are apt to pass out at the little end of the horn, or resemble the figure 9 with its tail cut off! RUSTIC.

West Virginia, Oct., 1877.

Our French Letter.

Messrs. Editors American Farmer:

Selection of Seeds.

Much attention is at present devoted in this country to the selection of seeds; ordinarily, judicious siftings before sowings, steeps and skimming off the light grains, are the practices employed. But not so much attention is paid to the selection of seed the product of a different region, or of another latitude. M. Cordier, the director of the agricultural school of Saint-Remy, in order to ward off the vicissitudes of temperature in the case of winter-sown wheat, prepares a mixture of seeds cultivated in diverse localities, so that less blanks are caused by frost, or in the case of weak tilling on the part of a plant. Professor Raujouer of Clermont, has drawn attention to the fact, that the quality of seed varies in the same fruit, for example, with the position it occupies. He recommends caution in selecting plants as seed-bearers, as the vigor of the plants may be deceptive; they are not always the most beautiful parents that produce the most beautiful offspring. In the case of fruit, make a choice of those that are the most voluminous, and of the largest seeds therein contained, remembering that it is easier to perpetuate defects than good qualities. The seeds on the circumference of the sunflower are more robust than those in the centre of the crown, as, in the latter case, space is wanting for vigorous development. In a bunch of grapes the largest berries are those that have secured most room.

M. Petermann, of Belgium, has studied the seed question as affected by latitude, in its bearings not only on the degeneracy of the grain, but on the diminished produce. Some countries are remarkable for their exemption from these two drawbacks to a very superior degree; it is then to these countries that less farmed regions ought to apply for their seed supplies. When seeds are transported from a southern to a northern latitude, or from plain to mountain districts, they develop themselves in a shorter time than formerly, even under a lower degree of temperature. If the same species of seeds, after some years of culture, be re-transported southwards, or to low lands, they will surpass in earlier maturity those species which have never been changed. In the first transport, the seeds increase in volume and weight. These observations are confirmed by Schubler, Linsser and Krutsch. Liebeg has stated that in England farmers prefer the seed of clover and oats raised in mountainous districts for sowing in the plains; and Petermann attests the same leaning prevails throughout southern Austria. With Swedish farmers, the production of seeds has now become a speciality; it is also well known that clover seed imported from that country is exempt from the terrible scourge, dodder. How does a higher latitude thus influence, in so marked a manner, the formation and the maturity of grain? Schubler attributes it to the greater length of the days, and the more prolonged action of the sun in promoting those chemical changes essential for the plant's vitality, as the transformation of carbonic acid into the organic combinations in the cells. Sachs has demonstrated the influence of light in the formation of starch by the plant. In northern latitudes the colors of flowers, not only of the same species, but of the same varieties of plants, are more intense; the aromatic principles of plants, celery, garlic, onion, &c., are more strongly developed in higher latitudes. Cumin seed grown in Sweden is more odoriferous than that cultivated more southernwards, and white wheat imported from southern Europe for sowings in higher latitudes becomes more brilliantly white each succeeding year.

Ayrshires in France.

Quite a war is raging among French farmers respecting the Ayrshire breed of cattle; some inspectors going even to the length of stating the race is detrimental to the country.

France requires a breed that will satisfy two conditions—work and meat. The Ayrshires have many admirers, in Britany especially, where dairy produce is largely raised and shipped to England. If the Ayrshires produce from 23 to 16 quarts of milk per day in the good season, they put up flesh slowly, and are unfitted for draught. If Ayrshire bulls cross Breton cows they injure the latter race in point of meat and labor characteristics: hence why the Durham, pure or half-bred, is preferred. It is also well known that it is a peculiarity with Ayrshire crossings to preserve more of the Ayrshire traits than of the local breeds. If it is said, "you require cattle for dairy produce," select the Alderneys; these, however, are dear, ungainly, and require more attention than the Ayrshires. The latter will likely be driven into the background by Durham crossings; and for butter producers the Alderneys are coming into favor. Following Professor Pouriau, the percentage of butter in milk can vary from 1.5 to 3.5; that 12 quarts of milk are requisite to produce one pound of butter; the Norman cows, to which we are indebted for the famous Isigny butter, yield one pound of it per 14 quarts of milk; the Alderneys, the same quantity from 8 to 9 quarts.

Nothing practical has resulted from the Phylloxera congress at Lausanne. Switzerland prefers to extirpate infected vines. In France, the Faucon plan of immersion is successful; next, the employment of sulphuret of carbon—but only in spring or autumn.

Paris, Sept. 20, 1877. F. C.

Addresses at Agricultural Fairs.

This is the season for a rich harvest of these productions, and we could very easily fill our pages with such as would be of interest to our readers. But at this time we have so many original papers prepared especially for the *Farmer*, which we cannot readily omit, that we are obliged to pass over a number of these addresses; yet there is so much sound advice in the following portion of one delivered by a Marylander in a distant State, that we cannot resist the temptation to transfer it to our columns. It is by Dr. Lewis H. Steiner, of Frederick Co., and was delivered at the Guilford Co. (Conn.) Exhibition in September last, when, after alluding to the local history and the blessings enjoyed by the population of that section, the speaker said:

But it is well, also, amid this enjoyment, to spend at least a few moments in thinking of the peculiar happiness of your lot as inhabitants of a rural district, deriving your support directly from the rich bosom of nature herself. The tendency of the age has been to draw men from the country to the city, from the free enjoyment of nature's storehouse to the artificial wants that spring from the suggestions of fashion or luxury. But, as the rivalry in cities is keen and unchecked, those who have gained even pecuniary success are few in number, and the multitude has found that failure and disappointment have been their lot in the race for golden honors. And thus, after lives of no less exhausting toil than they would have undergone in cultivating nature's soil, after wearisome years filled with vain hopes and blighted expectations, they are forced to admit that their lives have been mere wild pursuits after an intangible vanity. You are to be congratulated that you have chosen a more rational and more wholesome, a more satisfactory, path of life. If your gains have been less, they have been more certain; if your toil has been severe, it has given you tougher muscle, greater powers of endurance, better digestion, and sweeter sleep; if your luxuries have been few and hardly worthy of the name, you have been freed from the temptations that easily ensnare effeminate habits and sensual

appetites; if you have lost the empty rewards conferred by public notoriety, you have gained the much greater rewards of pure lives, spotless names and rich records for honesty and virtue to transmit to your children.

If all this be so, and the tendency still remains with your sons to desert their ancestral acres, and to leave the ploughshare rust in the furrows while they seek their fortunes amid crowded cities, you must see how this can be counteracted and possibly prevented. Necessarily, I am speaking of a class, and not of exceptional cases, where there may be a special tendency to mercantile or other pursuits that are best followed in cities, or to professional careers that are frequently most successful where mind coming in contact with mind stimulates natural acuteness to wonderful conquests. It is well for our cities that such exceptional cases are constantly recurring, since they furnish fresh supplies of young, active brains to replenish those that are weakened and rendered effeminate by luxurious habits and constant violations of sanitary laws. Of *such* cases, I am not speaking, but of the general restless tendency of farmers' sons to try their fortunes in some impossible way, amid the tumult and bustle of city life. How is this to be obviated, so that, while the healthy muscle and honest heart shall be retained amid the busy scenes of agriculture, the young soul may not be longing for other and more varied scenes?

The farmer must make his home attractive to his children by furnishing such enjoyments as will meet the constant longing of the young American for information. The boy who has a taste for reading, possesses a charm that will protect him from the influence of bad company and the perils of vice. The newspaper should be placed at his disposal, with its rich freight of news from every land, its record of contemporary history at home and abroad, its reports of invention and discovery, its accounts of improvement in agriculture as well as the arts, its budget of political movements of interest to every young patriot. If possible, a daily should be secured, as well as the local weekly, that tells the tale of events happening near the farmer's home. Of course I do *not* include among the newspapers, that are to be employed as *educational* material, the flash weekly whose columns are devoted to sickly sentimentality, immoral adventure or piratical deeds. It can only weaken the judgment, warp the imagination, and demoralize the feelings; while the honest journal will strengthen the mind, refine the gentler impulses, and give tone and fibre to the inner nature of the youth.

But other reading should also be placed within reach of the farmer's son. He should have access to practical treatises on those sciences that explain the mysteries which meet him in his constant contact with nature. From natural history, he can learn to know the birds that people the air, and insects that either aid or injure the plant; from botany the plants that spring up spontaneously or after cultivation; from mineralogy and geology and chemistry the nature and composition of the soil in its natural condition, and what fertilizers will insure the richest yield to his labors; from history and travel he will learn to know something of the past of the world, and the wonders of other lands, and even from fiction and poetry he may derive benefit through the cultivation of a love of the beautiful. I do not advocate the reading of many books, as this might lead to a species of mental indigestion; but the careful study of a few at the home fireside, encouraged and assisted in their perusal by the personal sympathies of the rest of the family. In this way your daughters will participate in the reading of your sons, and parents and children may really share in the acquisition of information.

Hereford Cattle.

This breed of cattle does not seem to gain in favor in this country. Dr. Ellzey, Professor of Agriculture in the Va. State Agricultural College, and Live Stock Editor of the *Southern Planter*, gives in the October No. of that journal his estimate of their merits in the following terms:

The next of the beef breeds we propose to describe is the long-established and well-known cattle of Herefordshire, England, celebrated for hardihood, heavy weights, and aptitude to fatten; but they are confessedly inferior milkers, and are never used in the dairy. It is claimed by their advocates, that these cattle strongly rival the Shorthorns, and have often beat them for sweepstakes premiums in the show rings. It must, however, be remembered that the sweepstake premium goes to one or the other breed, as the animal exhibited may be considered the best specimen of that breed, and is not at all an award of merit as between the two breeds. Nor can we admit from what we have seen of them and what is written by the best English authors, that the Herefords, by any means, rival Shorthorns in excellence. We have, indeed, seen Herefords of superb individual merit; cylindrical in form, and built close down to the ground; carrying an immense weight of flesh; yet they have rather a disappointing touch, and in our experience, when crossed with common stock, their grades lack merit, or at least such merit as might have been anticipated from the excellence of the thoroughbred parent. Compared with the bull or the ox, the Hereford cow appears to great disadvantage and presents far from a striking appearance; lacking the handsome color of the Shorthorns, she lacks the round, well-developed, deep-fleshed carcass of the cow of that breed. "The Hereford cow, says Youatt, is apparently a very inferior animal; not only is she no milker, but her form has been sacrificed by the breeder." "She is rather a small and ill-made animal; her bull calf frequently attains three times her own bulk; yet, when put up to fatten, she takes on fat at a rapid rate, and spreads out to an extraordinay extent considering her former appearance and size." As work-oxen these cattle have not become distinguished. They are a little coarse-boned and somewhat heavy in the forward parts, so that they cannot possess the activity of the Devons. Patience,

docility and strength they do possess, and when they have been worked for several years they prove excellent feeders, and often attain to heavy weights. The beef, too, is often very fine grained and well marbled, but there is at the same time rather apt to be too much coarse and heavy bone, especially in the fore-quarter. Not possessing the highest excellence for the yoke, being the very poorest milkers, they ought to be indisputably the best beef-producers, if it can be claimed that they are better cattle for the farmer than the Shorthorns. That both Shorthorns and Devon on the contrary excel them in the quality of their flesh can, we think, be successfully maintained. Furthermore, we believe that the true test of the value of the throughbred breeds of domestic animals, is the excellence of the grades they produce with the common sorts, and in this particular the Herefords cannot claim supremacy. Here they are unquestionably overmatched by both Shorthorns and Devons. Their deficiency as milkers unfits them for the general farmer's use, and they are apparently not destined to grow into much public favor in this country. In color, the Herefords are a pale red, sometimes approaching to dun, with white faces or rather white heads and white legs. They are, by some, believed to be originally the same as the Devons, but they are now much heavier and much coarser, especially in the fore-parts. It is proper to say that there are some enthusiastic admirers of these cattle, and that they are now being well advertised and pushed before the American public, and we do not deny that we have seen some magnificent individuals exhibited.

The Jersey Cattle.

In the Chicago National *Live Stock Journal*, for October, the attention of breeders of Jersey cattle is directed to an important question, an extract from which will best explain itself. After remarking, that it is a safe prediction that the Channel Island cow will become more popular, and especially more fashionable, the writer adds:

It is an important question for Jersey breeders, whether they will accept the present standards as the best possible, and seek to secure uniformity to existing fashionable models, or whether they shall attempt to retain the present excellencies, and also further develop others. The generally recognized and accepted claim for the Jersey is, the production of rich milk—milk containing an unusually large percentage of butter. Large yields of milk are occasionally reported; but very generally the claim is, not quantity, but quality. Among breeders, we find quite different standards for judging. One class makes milk production the great test: this to be shown by actual tests of the individual or her ancestry, or else indicated by the escutcheon, or marks supposed to indicate excellence in this direction. Another class attaches great and, unquestionably, undue, importance to fancy points, noticeably a solid color and black points. Incidentally, there has been considerable change in size and appearance. The average Jersey cow of to-day is larger and a good deal more symmetrical than was the average Jersey of twenty years since; but this change has been somewhat incidental. Few breeders have made these changes a principal subject.

Of course, it would be exceedingly unwise to adopt a Short-horn model of perfection for the Jersey; but I believe the greatest utility of the breed—its adaptation to the wants of the largest number—can be best secured by giving more general attention to increasing the size, improving the form in its adaptation to meat production, and rejecting color as an important element in deciding value. There can be no essential connection between the production of rich milk and small size. A reasonable degree of symmetry cannot be a bar to excellence in milk production. And, whatever may be true of those in some special circumstances, it is clearly true that the great majority of American and English dairymen show, by their practice, that they do regard the value of the carcass, when the cow ceases to produce milk, as a not unimportant element. With the increasing spread of Jersey bulls, it becomes a more and more important question—What is to be done with the bull calves?

Of the two problems—to secure uniformity of color and retain the special excellence of the breed; or to somewhat increase the average size and improve the form for beef making, without injury to the milk-giving tendencies—I would choose the latter, as equally easy, and vastly the more praiseworthy attempt. I have known Jersey bulls which weighed 1,600 or 1,700 lbs.; and I do not know that they were the less desirable, as shown by their progeny. I have seen Jersey cows which were good-looking cows, judged by the ordinary standard, that looks to double adaptation, which were also good as producers of milk rich in cream; as certainly I have known some most angular, undesirable cows, as judged by the same standard, which were also inferior at the pail.

Oxford Down Sheep.

We give for a frontispiece in this month's issue of the *Farmer* an engraving of the ram Freeland, of this breed, the property of Mr. T. S. Cooper, of Coopersburg, Pennsylvania. Freeland has won more medals and money prizes than any other sheep of his age in Europe. In July, 1876, he was hired, a two-shear ram, by Mr. Cooper, at the annual letting and sale of Mr. Milton Druce, of England, at 85 guineas (say $450) for the season. Freeland was afterwards purchased at a long price by Mr. Cooper, and is to remain at the head of his flock as a breeding ram. In August of the present year, Mr. Cooper received 20 yearling ewes of the same breed from Mr. Druce and 14 from Mr. John Treadwell, another celebrated Oxford breeder.

From an article in Mr. Cooper's catalogue, taken from the London *Field*, we extract the following concerning these sheep, which are probably destined to become favorites in this country:

[*From the London Field.*]

Oxfordshire Down Sheep.

BY MESSRS. M. DRUCE AND C. HOBBS.

No breed of sheep has grown more into public favor, or has more rapidly extended in numbers, within the last fifteen or twenty years, than the Oxford Down. It is now somewhere about fifty years since Messrs. Druce of Eynsham, Gilett of Southleigh, Blake of Stanton Harcourt, and Twynham of Hampshire, undertook the construction of a new breed of sheep, that should in great measure possess the weight of the Longwool with the quality of the Down. Probably the advantage of such a breed was first apparent in the offspring of a cross occasionally resorted to in the case of draft ewes, but from pursuing which farmers had hitherto been deterred by the tendency of the offspring to breed back to either side; and for many years after the breed had become recognized as distinct, the want of uniform character was a source of criticism. Some slight admixture of Sussex Down may have been introduced by those early breeders; but we are of opinion that the Cotswold grey-faced ram and the Hampshire Down ewe were the chief, if not the only, materials which by judicious blending and careful selection have resulted in a class of sheep which, under suitable conditions, are probably as profitable as any that can be mentioned, both on account of size, weight of wool, aptitude to fatten, hardy character, and valuable meat. The success of the early promoters of the project led many others into the field. It was not until 1850 that they were styled the Oxfordshire Down, the county of Oxford being their stronghold; previous to this date they were properly regarded as cross-breeds, and known as Down Cotswolds, under which designation they achieved successes at the Smithfield shows.

The R. A. S. decided on a separate class, and the Oxfordshire Downs made their first appearance as a recognized breed by the great society in the Exhibition year of 1862, at Battersea, where they numbered 62 entries, and were highly spoken of by the judges, who, however, objected to their want of uniformity—a deficiency again referred to by the judges at the Royal 1865 and 1868.

The reports in the R. A. S. *Journal* of 1870 and 1872 speak in high praise of their general excellence and great improvement in uniform character. We still see difference in type in the rams offered to the public; but, knowing that a heavy fleece can be obtained, with wool thickly set on the skin, and holding the opinion that a fine quality of mutton is not to be found under an open coat, we think that a great advance will be made when a lashy Cotswold fleece is no longer to be found among flocks bearing the name of Oxfordshire Downs.

For rent-payers they are not to be excelled, and with their robust constitutions and early maturity, bearing as they do such an abundant supply of mutton and wool, they have made their way into most counties; and many hundreds of rams are yearly sold by the different breeders.

A real Oxfordshire Down should have a nice dark color, the poll well covered with wool, adorned with a topknot on the forehead; a good fleece of wool, thick on the skin, not too curly; a well-formed barrel on short, dark legs (not grey or spotted); with good, firm mutton. The tegs are usually sold fat, from 11 to 13 months old, at an average of 10 stone, (140 lbs.) and are much sought after in the London and other markets. The following figures, taken from the Smithfield Club show catalogue, will give some idea of the live weight of a pen of three shearlings when about 22 months old:

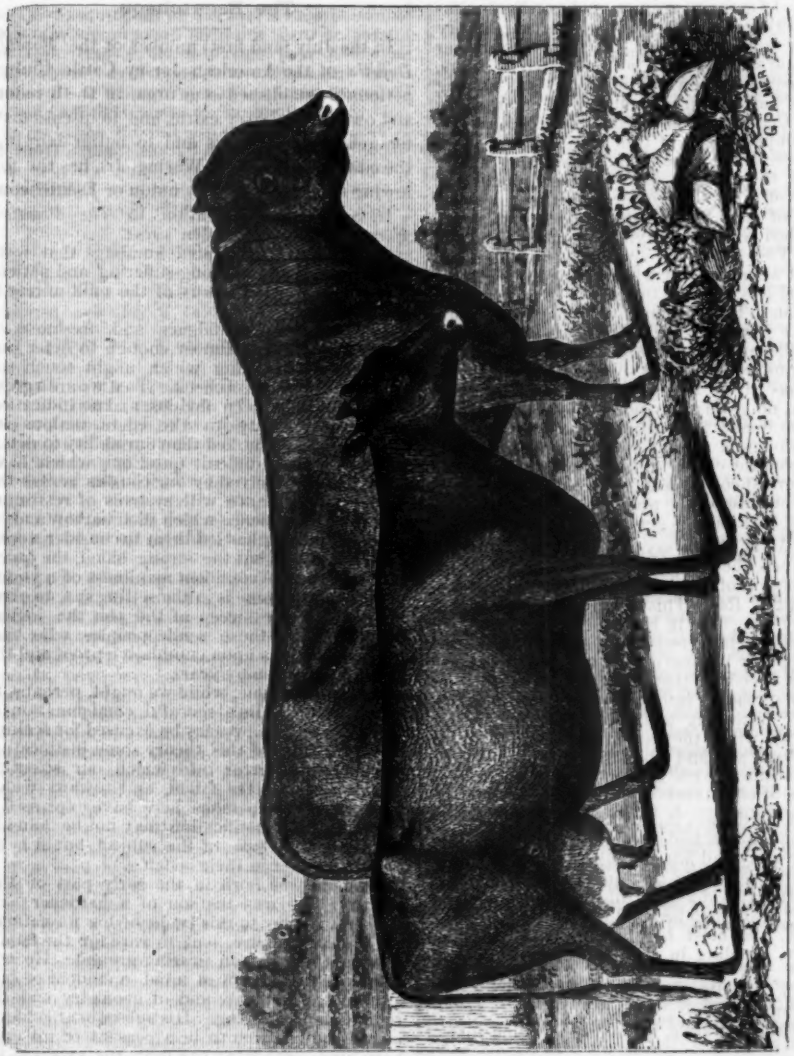
	Cwt.	qrs.	lbs.	
	7	3	27	1870
	7	1	20	1871
Ewes	8	1	26	1870
	7	3	9	1871

The average age of the pen of three ewes in 1870 was 57½ months.

The average age of the pen of three ewes in 1871 was 61 months.

The weight of wool for a whole flock will average about 7 lbs. per sheep; rams have been known to cut as much as 20 lbs. when shearlings. Great numbers of shearlings and ram lambs are now sold by public as well as private sale. The Oxfordshire sheep are adapted more particularly for mixed soils, and stand close stocking and confinement; that is, they can be kept entirely in hurdles, and will probably do better so than if allowed a range.

The stock ewes are generally divided in August, and rams selected to suit each lot; they run over the stubbles, and are penned on rape or cabbage at night; in some instances a few beans are given. They then clean up the pastures till Christmas, having bean or pea straw at night. It is considered unwise to give them many turnips before yeaning. They are then brought into the foldyard for lambing, and are fed on hay, cotton cake, and a few roots, and remain so until the lambs are sufficiently strong to go into the turnip field. They will be found very good mothers, being strong and prolific, producing a considerable proportion of twins; this, however, depends much upon the nature of the land. The lambs when taken into the field have a fold in front of their mothers, where they are supplied with hay, corn, and, as the case may be, cut swedes, or crop off the greens; the ewes with twins are also given corn. The lambs are usually weaned when about twenty-two weeks old. The plan now adopted is to have the fold thoroughly well set, and allow them to remain in front of the ewes, and after a few days they will become quite reconciled. They are a healthy class of sheep, and cases of giddiness are seldom known in any of the flocks. The management closely approaches that practised in Hampshire and Wiltshire, where the attention to ewes and lambs has become proverbial—early maturity (*i. e.*, 20 lb. a quarter a year old) requiring great attention during the young stage; and we are satisfied from experience that an early acquaintance with suitable artificial food and a frequent change of the natural produce are points of the gravest importance. The master's eye is required daily to note progress. A check to the young system is often bad to recover from, and it is a great argument for the folding system that the sheep are so frequently under eye that any marked change must be noticed at once.



RAVINEWOOD BEAU AND BELLE.

Norfold Red-Polled Cattle, the property of G. F. Taber, Patterson, N. J.

Norfolk Red-Polled Cattle.

We give above a correct engraving of these cattle. Mr. Taber, their owner, purchased in 1873 from the Elmham herd of Lord Sondes, three heifers in calf and a bull of this breed,—the first, it is believed, brought to America; and in 1874 four more females. He says some thought the heifers were too straight and handsome to prove large milkers, but changed their opinion in the following spring when they had calves and showed very fine udders; the heifer Ocean Maid, at that time two years old, gave 36 pounds of milk per day on pasture only, and has since considerably exceeded this.

The following is Mr. Taber's description of these cattle, which he says are so quiet and docile compared with his horned cows that he is confident any one who has a herd of good polled cattle will never again have those with horns:

"The Norfolk and Suffolk Red-Polled Cattle originated in Norfolk and Suffolk counties, England.

So far back as can be traced, there existed in those counties a breed of polled cattle,

renowned for their hardiness and excellent milking qualities; the bullocks also making a very superior quality of beef. They were rather small, and seem to have been of different colors, more frequently, however, of red or dun. During the last half century, a number of enterprising men of that section have taken a special interest in the improvement of this breed, and we have, as the result, the pure-bred Norfolk and Suffolk Red of the present day. These animals are usually of a rich red color, sometimes a shade lighter, of medium size, small bones, good form, particularly clean and stylish about the head and neck. The cows are frequently very plump and straight when dry, but when giving milk become lank and less pleasing to the eye of any but the dairyman. The accompanying portraits represent the imported bull Ravinewood Beau and cow Belle, and as such are very truthful representations, and are good specimens of the breed. Belle has given this season, on a rather short pasture, no grain, forty pounds of milk per day. With ordinary feed, from thirty-four to forty pounds of milk per day appears to be a common yield from the cows. I find, that when crossed with horned cows, the Norfolk bull makes a very strong impression on the progeny, which very rarely has any horns and is generally red in color."

Mr. A. B. Allen says: "Of the polled cattle mentioned, the first in value and most deserving the attention of the American breeder is, perhaps, the Norfolk Red. This beautiful race of animals has been long bred in England, of the same color and general characteristics as at present, and has consequently become one of the most fixed and distinct breeds of that country. They are now rapidly spreading into the neighboring counties, and are beginning to be exported into foreign countries, where they are much liked. They are of medium size and a handsome red color, varying in shade like the Devon. Their merits may be thus briefly stated:

First, hardy and thrifty.

Second, quick feeders, or in other words they mature early and fatten kindly.

Third, beef of the first quality.

Fourth, very docile in disposition, and consequently easily handled and herded.

Fifth, the most highly improved are good milkers, equaling in this respect the best Ayrshires.

Sixth, deer-like head and limbs, with smooth, well-rounded form.

Seventh, fine style, and a dash rivaling that of the Devon.

In fact, they are often called Polled Devons, to distinguish them from other reddish breeds.

My brother, the late Richard L. Allen, when traveling in England in 1869, wrote home that the Norfolk Reds he saw there were much like this fine breed, and adds: 'I have never seen such beautiful animals. If I were breeding choice stock in America, I would build up a herd of choice Norfolks at once, if they could be found here in sufficient numbers approximating merit to those I saw.'"

The milking qualities of these cattle are unquestionable, and it frequently happens that a cow will yield a good quantity of milk from one calving to another.

The Escutcheon.

In the July (and first) number of the *Monthly Bulletin* of the American Jersey Cattle Club, a periodical established as an organ of the breeders and owners of Jersey cattle, and to discuss matters relating to Jerseys and to butter dairying, the editor, Col. Geo. E. Waring, Jr., has the following article on the milk union or Escutcheon:

In a recent contribution to *The Practical Farmer*, Mr. L. S. Harden says:

"Of all the unmitigated humbugs that were ever imposed upon a long-suffering and patient people this Guênon theory of the milk-mirror is the greatest."

The boldness, confidence and freshness of this statement are almost enough to deter one from saying anything which might touch the bloom of its youthful cheek. That we are a great people has long been obvious, and no indication of our superiority to the effete nations of Europe is more marked than our ability to determine, at a dash, difficult questions which have been painfully solved by our cousins across the water in accordance with systems of reasoning and rules of evidence which their narrow and restricted training has led them to consider necessary. It needs but the strong blood, the quick intellect, and the confident manliness of a young people, whose home is in the setting sun, to overthrow with one sweep of the pen the logical deductions of those senile peoples who base their conclusions upon cumulative proof and the experience of many years.

At the same time, while we ought, perhaps, to accept Mr. Hardin's scornful condemnation of Guênon's system, we may be excused for seeking in the history of this theory some justification for the grave error into which our scientific friends abroad have fallen, and toward which some misguided persons here have expressed a leaning. Full justification may not be found in the following *resumé* of the subject, but it is all there is to offer in their behalf.

Guênon was born in the early part of this century. He was the son of a gardener, and was brought up to this trade of his forefathers. As a child, he was sent to care for the family cow on the common grazing ground. He was of an observing turn of mind, a student of botany and agriculture, and of geometry and the rudiments of drawing. His subsequent achievements showed him to be a peasant of no ordinary kind. Studying carefully the external indications of the cow under his charge, and of others with which she was grazing, he conceived the idea that the escutcheon must have a fixed meaning. With this idea strong in his mind, he made it the chief aim of his life to systematize this meaning, and to develop from it a rule which should be of value to breeders and purchasers of cattle. Largely with a view to increasing his facilities for investigation, he became a cattle-dealer. For seven or eight years he was constantly engaged in arranging the results of his investigations and making a consistent classification of them. In 1828 he addressed to the Academy of Bordeaux a request that his system might be examined and reported upon. As he

was not yet willing to disclose his secret, the report of the committee went little further than the assertion that M. Guênon really possessed great sagacity in his line, and to recommend that a sufficient indemnity be accorded him to induce him to give his system to the public.

Nine years later the Agricultural Society of Bordeaux appointed a committee, whose chairman was the chief Veterinary Professor of the Department, to give the new system an exhaustive investigation. The examination was applied to upwards of sixty cows and heifers. Concerning this trial the committee say in their report:

"We are bound to declare that every statement made by M. Guênon with respect to each of them, whether it regarded the quantity of milk or the time during which the cow continued to give milk, after being got with calf, or, finally, the quality of the milk as being more or less creamy or serous, was confirmed, and its accuracy fully established. The only discrepancies which occurred were some slight differences in regard to the *quantity* of milk; but these, as we afterwards satisfied ourselves, were caused by the food of the animal being more or less abundant."

Another test was made through Guênon and his brother, to whom the system had been communicated. The same cows were examined by the two brothers separately; a record of the two estimates of the quality of each animal being made, and being compared with the separate statements of the owners.

"This mode of proceeding could not fail to give rise to differences—to contradiction, even—between the judgment of the two brothers, unless their method was a positive and sure one. Well! gentlemen—we must say it—this last test was absolutely decisive. Not only did the various judgments of the two brothers accord perfectly together, but they were in perfect accordance, also, with all that was said by the proprietors in regard to the qualities, good and bad, of every animal subjected to this examination."

Two members of the committee, scientific men with special physiological knowledge of domestic animals, were struck with the truth of the system, and the report says:

"This system, gentlemen, we do not fear to say it, is infallible. The signs upon which it is founded, ever constant, invariable in the place which they occupy, are strongly impressed upon the animal by the hand of nature. . . . . The members of your committee, after witnessing the first experiment, have been able themselves to apply the system, and to form judgments which were afterward corroborated in the same way that those of M. Guênon were."

Guênon was proclaimed a member of the Society and awarded a gold medal; fifty copies of his work on milch cows were subscribed for, and one thousand copies of the committee's report were ordered printed for circulation among the agricultural societies of France.

The Agricultural Society of Aurillac appointed a committee, whose examination was equally careful and whose report was quite as emphatic:

"Each cow was examined separately by M. Guênon, who wrote his notes upon her, and delivered the paper closed to one of us. Immediately after another member of the committee questioned the owner of the cow, or the person in charge of her, in regard to her daily yield of milk, its quality, and the time during which she continued to give milk after being got with calf. The answers were taken down in writing, and then compared with the notes written by M. Guênon. They were generally found to accord, and proved to the satisfaction of your committee and every one present—all of whom attended with lively interest to these proceedings—that M. Guênon possesses great sagacity in judging of cattle, and that his method rests upon a sure foundation.

"An incident occurred to confirm us in this opinion. A farmer played the trick of bringing up for examination a cow that had already been examined and pronounced upon. The notes written by M. Guênon on this occasion accorded exactly, in every respect, with those he had written on the former.

"The method of M. Guênon has not the merit of being a brilliant theory. It rests upon facts and long experience. It is only after repeated trials and twenty-five years of toilsome researches that its author has accomplished the task of establishing it."

Guênon received from this Society the same commendation and award that had been given him at Bordeaux.

It is now forty years since these events transpired. Guênon's system, but little modified, has been published in every country in Europe, and, so far as we know or believe, it everywhere commands the greatest respect where it is the best known. Among the more intelligent dairymen of France and Germany it is accepted as being of unquestioned value. The Dutch treatise on the subject is largely annotated and is much more copious than the original. We were shown this book by Wouter Sluis, one of the most noted and intelligent dairymen of the Beemster Polder, in North Holland, who assured us that under no circumstances would he buy or breed from a cow that was not highly marked according to Guênon's system, and that in selling he made it a rule to reserve the cows with the best escutcheons, whatever might be their other indications.

Being informed that the escutcheon was relied upon in America only in a general way, and in conjunction with other indications, he said that this could result only from our disregard of the minuter indications which Guênon had described; that he was confident that no man had ever mastered the system in all its details without being convinced of its absolute truth—not as the only thing to be regarded in breeding and in buying and selling, but as the one thing without which no other indications, however good, should be accepted as conclusive.

The farmers of Jersey are mostly cottagers owning but a few acres of land and keeping few animals. Their interests are divided among many little industries. They are not generally the sort of men to study and apply an intricate system like that of Guênon. Among the officers of the Agricultural Society of the island a diversity of opinion existed as to the value of Guênon's method, and at an inspection of a herd of about

twenty cows some of these gentlemen spoke slightingly of it. Hereupon one or two of them who had made a study of its details asserted its value in the most confident terms, and convinced the others that their slight regard for it was due to their slight knowledge.

Never having made ourselves proficient in the intricacies of the system, we have no definite proof to offer in contravention of Mr. Hardin's dictum, only a confident belief that we have derived benefits from such knowledge of the escutcheon as we do possess which have been of great practical use. In our opinion, G. L. D., who replies to Mr. Hardin in the *Country Gentleman* of the 5th instant, is entirely correct in saying:

"All conditions being equal, the cow with a perfect escutcheon will give a large yield of milk, decreasing by almost imperceptible degrees from the full flow to the time of calving, while one with no escutcheon, or an inferior one, will go dry five months in the year, and never give over a hatful of milk at her best. In an hour's time I can find one hundred cows of this latter class without an exception among them, while on the other hand I never saw a poor milker with a good escutcheon."

On Ventilation and the Dairy.

Editors American Farmer:

In a former paper I promised to give you a short article on how I managed to obtain ventilation for my dairy. I now proceed to do so, and wish to state actual results,—for speculation amounts to nothing unless backed by solid substantial arguments. Too much of such is published; and the trouble is, parties write from hot-house results or repeat only the errors of others that every practical farmer knows the worthlessness of: hence my aim has been only to give the result of actual experiments, avoiding as far as possible theory or speculation, unless I have common sense as a saddle to ride upon. Ventilation is all-important to a dairy, for the following reason: Without it there will be a collection of foul gases, bad smells naturally arising from organic changes taking place in such a sensitive matter as milk, which is liable to putrefaction in a few hours, loading the atmosphere with an acid that in turn precipitates the clabber or caseine before there is any chance for the cream to rise; and if it does, will have the smell of the dairy, which must destroy all hope for making first-class butter. At least nine-tenths of the butter sold in our market, in my opinion, is spoilt before it enters the churn, either by the fermentation or oxydation destroying the granulation, or by the absorption of some offensive smell which an acute taste will detect.

A dairy to produce such results was found on my place when purchased, consisting of a building detached from the house, about 8 feet square, built of brick, 9-inch walls and about four feet below the surface, usually half full of water during the fall and spring, (having no drainage,) and had been the convenient hole to throw the trash from the house in, such as broken dishes, worn-out coffee pots, old shoes, &c., for years. There was no other use for such an institution,—as milk, like the grass, had long before dried up. The present grass-fields give pleasure to the eye, milk to the hungry stomach, butter to buy the other necessary luxuries, and the clabber and sour milk, containing all the elements extracted from the soil, going to the pig-pen, to be again returned to where it came from. Butter being the result of the air and water, does not contain a particle of matter from the soil: hence no matter how much is sold off the place, it does not take away with it a single element of the soil. Therefore, a farm devoted to butter-making will never become exhausted, except by the inorganic elements entering the animals sold from the place. I find I am away from my base.

When the necessity arose the old dairy was cleaned, and the water dipped out, which I found was resting upon a brick floor laid in cement; and I presume like many others to be found in level countries without springs, as ours is. The necessary repairs being made the dairy was brought into use; and although it was kept clean and the milk dropped was wiped up, there always seemed a sour, musty smell in the cistern,—for such it was,—and it was impossible to make butter. Being very verdant on such subjects the fault was placed on the churns, and several different patented ones were purchased, "warranted to make first-class butter in three minutes." After sinking about twenty dollars for such humbugs I abandoned the idea of making good butter by any churn, being convinced that the fault was in the dairy, for often the morning's milk was clabber by dinner time. I propose giving a description of my new dairy, which has given perfect satisfaction for some years, and cool milk and good butter free of all offensive odors. It has been much admired by my numerous friends visiting Rock Hall during the summer months.

Immediately adjoining the old dairy, (using one of the walls,) another was constructed on the following plan: Two four-inch walls were built, laid in cement, leaving a space between them of about ten inches for air. Along the foundation of the inner wall, every other brick was left out to admit of the cooled and consequently heavy air to pass out of the chamber into the dairy, and thus to displace the warmer air through the ventilator directly in the centre of the roof, in which is the opening covered with fine wire netting to prevent insects and flies entering: this and a window on the north wall protected from flies in the same manner, being the only openings in the dairy, except the door entering from the old one, which also has two small windows in it with the above protection, the entrance being the old doorway in the north wall. It will be seen that these double walls act as a sort of chimney, and air being a non-conductor, the heat from without is excluded to a certain extent. About 8 inches above the opening of the inner wall the bottom of the trough is laid, consisting of two-inch plank extending all around the walls; on the inner edge of the three planks a four-inch breast is laid in cement high enough for a *deep pan*. For the outer wall of the trough I use the inner wall of the house.

The bottom and sides are then well covered with cement to prevent all leaks, and the trough is ready for use. If I recollect correctly a country bricklayer did all the work in less than three days. A few feet from the dairy a well was dug, and a cucumber pump placed in it. From directly over the top of the trough a pipe was carried to the pump, which it entered below the platform, and during the day water is pumped into the trough, temperature during the summer months rising from 50 to 58 degrees, which is about the proper degree to cool the milk. To prevent an overflow of the trough and to empty the same several times a day in very warm weather, thereby preventing any stagnant water remaining, a pipe is carried through the wall near the top extending from the bottom of the trough, the other end of which is a few inches below the bottom of the trough. As the latter fills and starts the overflow, the water continues to run until the trough is empty, on the principle of a syphon; when empty it must be pumped full again before the syphon acts. In this way the water is constantly changing. Since the above arrangement, I have not had the slightest trouble from a musty, foul-smelling dairy. I spoke of the old dairy being half full of water half the year. To get rid of this was easily accomplished. The bottom of the nearest ditch was leveled and rather to my surprise was found to be low enough to drain the dairy. Some old plank was brought into use, a ditch dug in less than one day by a single hand, and before night the water was gone, and has not made its appearance since. This drain takes the waste water from the dairy. I hope I have made my plan clear to any reader who deems the matter worth consideration. Now for my next improvement: Nearly a year ago I had erected a windmill at the barn, which has continued to work like a charm. Happening to be in sight of it last week during the terrible storm and blow, it was my pleasure to see it pass through it without the slightest injury, when old trees were uprooted close by. The storm was certainly the severest I have ever seen, rocking my house like a cradle, and doing much damage along the coast. Mills having reached bottom prices and about as near perfection as the mower, sewing machine, &c., I propose erecting a small one at the dairy, so as always to have a full supply of cool water passing around the *deep pans* day and night, for lazy people will sometimes *forget* their duty, but the seldom-failing winds, without cost or thanks, are on hand willingly offering their assistance to man. During the time the mill has been working I think there have not been more than three or four days that ample water has not been furnished to fifteen horses and cows, and they drink no small amount. A. P. SHARP.

Baltimore, Oct., 1877

P. S.—I have supposed the current to be from the double walls through the dairy from this fact,—the opening along the bottom walls are colder than the space above, the thermometer indicating a difference of several degrees. Besides, strange to say, the milk will freeze quicker in the dairy than it will in a room close by in the ground floor,—another proof that the cold current of air must pass in extracting the heat from the milk.

I have had the ventilator, as well as the windows, well secured by a non-conductor, hoping to use the dairy in winter; but it is a failure, the milk freezing the first snap, when you would hardly think it possible. The latter difficulty may be avoided by closing the opening in the wall and prevent the cold current.

The Grange.

Politics and Political Economy.

Messrs. Editors American Farmer:

The following is a report to Brighton (Montgomery county, Md.) Grange (60) on Political Economy and Partisan Politics,—the bearing of each on grangers and farmers generally, and the proper limits of their agitation in the Grange:

Article II. of the Constitution of the Order of Patrons of Husbandry judiciously prohibits the discussion of political questions in the work of the order; and the Patrons' Parliamentary Guide, used by the Executive Committee of the National Grange, defines the word "political" in the constitution to mean partisan politics, and does not include or refer to general questions of Political Economy.

The confusion of these two questions in the popular mind arises from the use of the word "political" in connection with the word "economy," which, by itself, signifies *system;* so that political economy strictly and simply means system (or rule, or law, or science,) applied to politics.

Politics, in its highest and best sense, means the science of government: hence the similarity—almost identity—of the two terms "Politics" and "Political Economy," when we inquire into their exact specific signification. But the word politics, unfortunately, has another meaning; namely, the use of improper means to secure the success of a party, or the direction of a popular party, or personal strife for official position: so that we shall best secure plain and popular comprehension of the terms by defining partisan politics as the popular strife for mere party or personal supremacy; and Political Economy as the science of man's social relations in their agricultural, commercial, industrial and political aspects. The former frequently gives us change of officers or party control, without improvement in our mode of public administration; whilst an application to the modes of public administration of the principles of Political Economy—those which should control man's intercourse with his fellows—would invariably be followed by method, knowledge, *science* in government, and not a constant exhibition of inexperience, ignorance and wrong, with the repetition of errors which have previously proved disastrous to the people; and as the repetition is the result of their ignorance and wrong, and as the constant change to which we are exposed by the absence of system and science is also the result of ignorance and immorality, it is at once apparent that we need the stability that would follow the administration of government in accordance with those well-established principles which secure the public welfare; and as the agricultural classes are vitally interested in attain-

ing this condition of good government in the interests of the people, the agitation and discussion by the agricultural classes of the principles upon which governments should be conducted, is also at once apparent. As all this agitation and discussion in the grange should refer solely to the principles of political economy, and not in any manner to partisan politics, the dividing line between the two should be plainly drawn; for through the one we shall attain increased power of association, progress and individual happiness; by the other we pass through strife and passion into disruption and wreck. A dispassionate investigation into the principles of Political Economy will lead to the diffusion of knowledge among the people, and prepare them as they can be prepared in no other manner, as they must be prepared, for the discharge of their political duties. With this preparation they become truly independent sovereigns and rulers; and a government so ruled becomes truly an independent and popular government. Without this preparation they remain mere agents in the hands of others, and the history of the case shows the power thus obtained is generally employed to attain individual benefit, and not to secure the prosperity and happiness of *all* the people,—the only object for which government, with its complicated machinery of law, lawmakers and law-executors, should be established among men.

Let us glance briefly at some of the details of these two great arenas of human effort,—Political Economy and Partisan Politics,—and see if we cannot draw such a line between them for our guidance, as shall give us all the blessings that will flow from the one, whilst we avoid all the errors which follow in the train of the other.

First—Political Economy.

In the early period of man's existence or occupation of the land, he is a hunter; his relations with his fellow-creatures are few and exceedingly simple; his wants are easily supplied by his vocation, with but slight contact with others; he requires no laws but those which common agreement with his few neighbors are sufficient to establish. Passing to the shepherd state in his social growth, the necessity of occupying large tracts of land for his cattle and his family still renders frequent intimate intercourse with others impossible, and the abundance of common occupation on the land leaves slight ground for difference or dispute; and wherever man exists in these early stages of his progress we find him indifferent to and but slightly controlled by the laws and customs of the more thickly settled regions around him; but increasing in numbers he turns his attention to agriculture and tilling of the land, as a means of support; and being a gregarious animal—by natural inclination, and in increasing communities by necessity also—he seeks social and business intercourse with his fellows; then arise complex questions in regard to the proper division of the land; the right to certain tracts and privileges: these are proprietory rights; then industry, or art, or prowess in war, gives some superior advantages in possession; then tenants spring up with rights and privileges; and when association by gradual progress has reached a certain stage, a standard of the value of accumulation becomes necessary. Cattle and slaves were so used by the Anglo-Saxons; cattle by the Greeks; wampum by American aborigines; cod-fish by New Englanders, and tobacco by Virginians; and these crude instruments are soon replaced by some article offering greater facilities for intercourse, and the precious metals follow in the steps of commerce; and as these are found to embarrass its operations and retard its progress, they in turn are replaced by paper, representing and circulating as money.

The increase of population, the occupation of the land, frequently small tracts of land by large numbers, and division of the people into various classes—agricultural, industrial, commercial, professional—soon present a complex condition of society. Power is delegated or assumed and one superior authority is recognized by all. Different interests (sometimes antagonistic, but never under a proper adjustment of the social compact,) arise for settlement; and law and law-makers are required for the good of all, that all these various and apparently antagonistic interests may be equally and harmoniously developed and protected. The transfer of land, the transaction of public business and the administration of justice,—the only objects which should be pursued by law,—necessitate the training of and give employment to lawyers. Disease, complicated and serious, follows the departure of the people from the simple and healthful modes of primitive life, and a certain class is likewise set apart to give that study to the human system, its restoration and preservation, which the preoccupation or the necessities or the deficient education of the masses of the people prevent *them* from giving, and physicians become likewise a necessary separate class. The producer of an article (wheat or an axe) cannot always deal directly with the consumer or user of his product, (indeed it is unwise that he should,) without an outlay far greater than the expense of an agent: hence merchants become essential factors between producers and consumers. Bankers become the important agents for facilitating these various operations. Blacksmiths, tailors, carpenters, masons, millers, &c., are valuable coadjutors in the great science of occupying, beautifying and perfecting the earth.

All necessary callings—for all the vocations of men are not necessary; some are even injurious—are equally valuable and important and honorable, and the members thereof are equally honorable so far as the calling in itself is considered; for the conclusion is easily and logically reached that the necessary labor of the members of (so-called) inferior vocations would have to be done by members of other vocations, if classes could not be found for their performance.

The farmer, under complete and highly-developed social conditions, is no longer the "independent" farmer. When his wool and cotton and flax were prepared and made into garments in his house, and his crude implements wrought into shape on the farm which furnished the necessary supplies for his household, he was the "independent" farmer; but so great has been the change effected by the growth of society that now there is no independence in the callings, but dependence: the farmer is as depend-

ent on the tailor and the blacksmith for their products as they are for his. Clothing and implements are now as important as bread, and this rule holds good concerning the other vocations. In his hour of need, the farmer is as dependent on the other pursuits of his fellows as they are on his corn and supplies; and his peculiar isolated situation has rendered him the helpless victim of the steps which other vocations have taken for their own advancement: hence his subordinate position hitherto; and hence the importance and vital need of such knowledge of his relations with other vocations, as shall lead to a proper adjustment of those relations, that the rewards of the labor of all may be equally distributed among all, to each according to his merit and need—like the refreshing rains and the sparkling dew, and the bright sunshine and grateful shade; the odor of flowers and the song of birds, and the splendor that rests on ten thousand fair spots to charm the children of Him whose wide-spread benediction crowns them with the abiding evidence of His impartial love,—and all this would follow the execution of the principles of the science of social intercourse, political economy; for all these control and secure the proper basis of man's intercourse with his fellows, and through that necessarily his peace, progress and happiness. But such is not the condition of things now; the rewards of labor are inequitably distributed; some are willing and anxious to work, but cannot obtain it; some are toiling constantly in deep mines, in close and unwholesome factories, in hot fields and dangerous places; whilst others are enjoying in ease a disproportionate share of the product of the labor of the toilers; oppressors on one side, victims on the other: hence the long-continued struggle of the ages. Patricians and Plebeians in Rome; the Jacquerie riots of 1353; Royalty and the Sans Culottes of France; Corporations and Employees in our time. Is not the removal of this social crime and misery a goal worthy the energies of the best and strongest? Is it not paramount to all other questions agitated among men?

DAWSON LAWRENCE.
WM. J. SCOFIELD.

(Conclusion in our next number.)

Baltimore County (Md.) Grange.

The grange spirit seems to have taken a firm hold in Baltimore county, where the order is growing steadily in numbers and influence. The County Grange, a representative body, composed of men of intelligence, dignity and business ability, which would do no discredit to any community, has settled down to the discussion of practical questions and to real work.

The public roads, common schools, combination for purchasing the best fertilizers, the reform of abuses prevailing in some of our city markets, &c., are being approached in a way which shows that business is meant.

A proposed new road law for the county has been ordered to be printed that it may be submitted to general criticism; and in every step taken care is had to show entire absence of any partisan bias, and that the efforts made are to secure the general welfare.

Horticulture.

Potomac Fruit-Growers' Association.

September Meeting.

A large and varied collection of Fruits and Flowers on exhibition, Jno. Saul leading off with 60 varieties of Pears.

Dr. McKim read a paper on

FRUITS IN DISEASE.

I do not intend reading a medical thesis for professional criticism, but a practical essay for popular use; and though I shall run counter to many prejudices, yet I am satisfied that facts invite investigation, and truth fears no criticism.

Many people walk through the world backward, having their faces turned in the direction whence they came, and not looking the way they are going. Many are surrounded by the walls of prejudice, the result of education or preconceived views; and as the walls are leveled, so as to enlarge the range of their vision, they bend their knees, or bow their heads, lest the conceived orthodoxy of their views be changed.

The prejudice against cold water, as a suitable drink for fever patients, has not entirely yielded to common sense and reason,—for almost daily the question is put, "Doctor, can he have cold water?" So we find a popular impression against the use of fruits and vegetables, and many partake of these healthful and necessary articles of diet "in fear and trembling." That there is usually an increase of deaths during the months that fruits and fresh or new vegetables are in the markets is granted, but let us investigate the cause.

The Dr. then quotes from the health reports of Dr. Snow, health officer of Providence, R. I., showing that in July, 1863, the number of deaths was one less than in the previous month; that of the 30 deaths of natives, 9 were under 5 years; that of the 31 deaths of foreigners, 17 were under 4 years; making a total of 26 under 5, out of a total of 61. About one-half were of cholera infantum.

Notice, if you please, the significant disparity between the mortality rate of the children of native-born and foreign-born parents. This fact at once indicates causes due, not to fruit-eating, but to the want of due regard to proper sanitary and hygienic regulations.

In his report for July, 1869, Dr. Snow says: "We are treated at this season of the year with the usual amount of cautions in the newspapers against the use of fruits and vegetables, and are called upon to believe that the increase of mortality which always occurs during hot weather is almost wholly caused by eating them. It is quite likely that eating unripe and wilted fruits and vegetables causes disturbances in the stomach and sickness, but it is of a temporary character, and would generally cure itself if no other cause was present. It is quite as well to use caution in the selection of fruits and vegetables, avoiding those that are wilted and decayed, but it is not well to be unnecessarily troubled and frightened about them, and it is still worse to avoid them altogether.

The slightest examination of the causes of death, given above, shows that fruits and vegetables

had almost no influence whatever in the mortality reported from summer complaints. Nearly all the decedents from these causes were very young children who do not eat fruits and vegetables at all. All but five of the decedents from summer complaints, in July, were under two years of age, and only two of the whole number were over four years of age. In certain seasons, when epidemic cholera may be present, and when the systems of the people may be prepared for disease by the poisoned air they breathe, it may be possible that wilted fruits and vegetables may be the exciting causes of fatal sickness, but even then the air that is breathed is more truly the cause of death than the food that is eaten. In ordinary seasons, when no epidemic is present, impure air causes a thousand-fold more mortality than fruits and vegetables. In fact, it is probable that total abstinence from fruits and vegetables by the whole community would produce more fatal sickness than the most unlimited indulgence in them. The safest rule is, however, "temperance in all things." October, 1869, he says:—"Children are killed by the manner in which they are dressed and by the food that is given them, as much as by other causes. Infants of the most tender age, in our changeable and rough climate, are left with bare arms and legs and with low-neck dresses. The mothers, in the same dress, would shiver and suffer with cold, and would expect a fit of sickness as the result of their culpable carelessness, and yet the mothers could endure such treatment with far less danger to health and life than their tender infants. A moment's reflection will indicate the effects of this mode of dressing, or want of dressing, on the child. The moment the cold air strikes the bare arms and legs of the child, the blood is driven from their extremities to the internal and more vital organs of the body. The result is congestion, to greater or less extent, of these organs. In warm weather the effect will be congestion of the bowels, causing diarrhea, dysentery or cholera infantum. We think this mode of dressing must be reckoned as one of the most prominent causes of summer complaints, so called."

In his report for July, 1873, Dr. Snow says: "Of the 55 decedents in July, from diarrheal diseases, 22 were American and 33 of foreign parentage. According to age there were 41 under 1 year, 10 from 1 to 2 years, and 4 over 40 years, making a total of 55 decedents from diarrheal diseases. It is certain that these infants under 2 years of age, nearly all of them under 1 year, did not contract their disease from eating fruits and vegetables. We have several times in past years analyzed the mortality from diarrheal diseases, with precisely similar results. As we find, therefore, that considerably more than three-fourths of all mortality from diarrheal diseases, except Asiatic cholera, in Providence, is found in infants under two years of age, we are compelled to believe that, in this city, at least, neither ripe nor unripe fruits and vegetables have any perceptible influence upon the mortality from these diseases. The infant decedents from diarrheal diseases are killed by the effects of heat and impure air, especially the latter.

In the District of Columbia the mortality for July, 1877, was 479,—being 78 less than for the corresponding month of last year. The mortality from cholera infantum was 85. When we recall the fact, that the range of temperature for July in this District was much less than the average in former years, we can easily and naturally account for the low rate of mortality during the month. Dr. W. H. Vail publishes an article on summer diet, and starts with the following argument: "God, in his providence, has stocked the polar regions with the seal, the whale and the bear, all the personification of fat and oil—while vegetation is comparatively unknown. On the other hand, as you approach the tropics, oranges, bananas, lemons and all our luscious fruits greet you on every hand, and vegetation runs wild. The disposition of Providence teaches us, what our appetites confirm, that in cold weather our diet should consist mainly of oily substances, or such food as is converted into fat by the process of digestion, while in the summer we should select such articles of diet as are not convertible into fat." Dr. Vail adds, "that vegetables, the edible parts of which ripen under ground, such as potatoes, carrots and parsnips, are heat producing, while those that ripen above ground are cooling. The latter, including especially asparagus, lettuce, peas, beans, tomatoes, corn and all fruits, should be freely eaten. Meat should not be eaten oftener than twice a day, and lean is preferable." He particularly recommends tomatoes. Assuming from the facts set forth, by such authority, that my hearers are prepared to grant the wholesomeness of fruits, in health, I will turn to a brief consideration of their uses in diseases.

There is scarcely a disease to which the human family is heir, but the sufferings therefrom would be greatly relieved by the use of the very fruits which are now so strictly forbidden. Further, many of these diseases would be conducted to a safe termination under the free use of fruits, because of the acids they contain. When our troops were fighting the Seminoles in Florida, many sick with diarrhœa and dysentery cured these diseases by stealing from the hospital into the fields and eating fruits, blackberries especially. Since our very pleasant and profitable excursion of last month, I have sent several children, suffering with cholera infantum and with dysentery, to the peach orchards, with most gratifying results; and where they could not be carried to the orchards to pick and eat the fruits fresh from the trees, I have had the little sufferers fed with sound fruit, with equally good results. Typhoid fever, in the treatment of which such extraordinary care is enjoined as regards diet, here fruits are not only highly grateful to the patient, but even work very favorable results. A physician who had been sick some weeks with typhoid fever, says his diarrhœa was cured by peaches. Says he, "I first ate half of a large peach, and feeling no ill effects I ate the other half, then one or two more, and the next day as many as I desired." He adds, "My bowels got better at once, and my recovery was rapid." Since our last meeting, a typhoid fever patient, who had been about three weeks sick, and, though improving, was allowed no diet but beef tea or milk punch, came under my care for a few days. I immediately ordered the free use of peaches and grapes, and the diarrhœa at once ceased; and at the end of five days, when I relinquished the care of her,

she was convalescent. My impression is, the disease runs a shorter course under the free use of fruits than under the usual method of treatment, and I think the use of stimulants rarely required when fruits are freely used. In the treatment of scarlet fever and diphtheria our summer fruits and many of the vegetables are most useful, and to the list may be added some or in fact any foreign fruits. There is scarcely a disease, accompanied with fever, but grapes and bananas can be freely given to the patient. In the treatment of dysentery I would greatly prefer ripe, sound fruits, peaches especially, to any medicine that can be suggested. And thus, Mr. President, I could go on in this crude manner, which is intended to be suggestive merely, and occupy the time of the Association. This is not the time or place for an exhaustive article, and my desire is to invite the spirit of investigation, and relieve the unnecessary sufferings of the sick. If you ask for the philosophy of the use of the articles in sickness or in health, I again invite your careful perusal of Dr. Vail's article above, and the admirable essay, read at our last meeting, to which I could add nothing; and if I shall have turned one face in the right direction, or lifted one individual above the fence of prejudice with which he is hedged, my work is done.

Washington, D. C. G. F. NEEDHAM.

Maryland Horticultural Society.

Mr. Thos. Meehan, of the *Gardener's Monthly*, than whom there is no better judge, has the following to say of the recent show of our Maryland Society:

During the week of the meeting of the American Pomological Society, the Maryland Horticultural Society held its annual exhibition. It was a remarkably creditable one in every respect, and we have not for a long time felt so much encouraged in regard to the future progress and position of Horticulture in our country as after seeing this beautiful show. The plants were not only of new or rare kinds in numerous cases, but had a large number of well-grown specimens. It has often been said in regard to American exhibits of plants that they seldom were more than the sweepings of greenhouses, showing no evidence whatever of gardening skill in their growth. The exhibits of most shows unfortunately compel us to say honestly that this is the truth, and it is therefore with the more pleasure that we record the fact that on this occasion there was a better average of plants, healthy and well-grown—we do not mean overgrown—than we have seen brought together for a long time. Another feature which impressed itself strongly on us was the cordial co-operation which seemed to exist between all the gardening fraternity of Baltimore in one good result. As human nature is what it is, we always expect some dissatisfied persons, sometimes with and sometimes without good reason, and who cannot therefore work well together. If there be any of this here, we did not find them, and all this is in favor of a vigorous long life to the infant society. It also has the advantage of amateurs of taste and culture, who, without wishing to appear prominent, yet do not shrink from leading off when they feel they can be useful. The President of the Society is Mr. W. H. Perot, a Baltimore merchant, whose country-seat of forty acres is in many respects not inferior to the celebrated one of Mr. Hunnewell at Boston. The Secretary—Mr. W. B. Sands—is the editor of the *American Farmer*, and one of the best workingmen in the line of tact and talent that any Society could have. A large number of others outside of the trade take an active pride in the success of the Society, and we shall not be at all surprised if, before long, this young Society does not press the older ones of Pennsylvania and Massachusetts pretty hard for pre-eminence.

A large number of the plants on exhibition had no exhibitor's names attached to them This is supposed to insure a more impartial decision by the jurors, but it is doubtful. On the other hand it robs the exhibitor of half his honors. We were enabled to ascertain only the following from an inspection of the plants on exhibition: Mr. Wm. T. Walters, Alex. Frazier, gardener; Patterson Park, Mr. Fraser, Supt.; Saml. Feast & Son; Robt. Buist; W. H. Wehrhane; John Saul; Joseph Kift & Sons; W. D. Brackenridge; U. S. Bot. Garden, W. R. Smith, curator; Robt. J. Halliday; Cromwell & Congdon; James Pentland; Mr. Black; Thomas Fairley. The fruit department was chiefly in connection with the American Pomological Society's exhibit, and we were not able in our short examination to do credit to the Maryland show separately from that. We have only time and space at this late period of the month to say that all in all this exhibit of the Maryland Society in itself, and in all its associations, was one which all will long remember who took part in it.

In Mr. Meehan's account of the proceedings of the American Pomological Society we find the following:

A particularly agreeable incident of the meeting was a trip up the Chester River to Riverside, the residence, and peach and pear orchards of Col. Wilkins. Few of the members ever had so much instruction in the culture of these fruits on a tremendous scale as this visit afforded, and many were the praises bestowed on the Col. for this generous treat. Some two hundred and eighty members went up. To help the Society, the Maryland Horticultural Society spent several thousands of dollars in erecting temporary accommodations for the fruits of the Association, placing the Pomological Society under lasting obligations to them.

The Committee appointed by the Lancaster Co. (Pa.) Horticultural Society to visit the Pomological Exhibition, reported the great gratification they experienced, and add that it was considered by some of the older members to be the finest that has yet been seen in this country. They speak in high terms of the display of fruits; and of grapes there was an almost endless variety of the choicest kinds. And last but not least were the flowers and plants. The annexes that contained them were a perfect paradise.

Floriculture, &c.—November, 1877.

By W. D. Brackenridge, Florist and Nurseryman, Govanstown, Baltimore County, Md.

Greenhouse.

On this head we do not deem it necessary to be profuse in our remarks for the present month, presuming that all plants have been housed in good condition; we will only suggest for their safe keeping during the winter, a few rules to be observed, and the first is: not to give more water at the root than the plant can absorb, and whenever you are in doubt on this point withhold it until such time as you find the ball becoming dry—then supply as much as will fairly reach the bottom of the pot. Better that plants in general during the winter months receive less than more than they require; a greater number being killed in this way than there are by being actually starved for the want of it. But again, such articles as Stevias, Eupatoriums and Callas form in a measure an exception to this rule, the two former being rank growers, and the last may fairly be considered a marsh plant; and farther, with regard to water, do not apply it overhead with the syringe, except when the weather is clear and the temperature high, observing to perform this work in the early part of the day.

Another which demands the attention of the cultivator: that is to admit air freely in the forenoon on every occasion when the weather is mild, observing to take it off in the early part of the afternoon so as to close in a little heat, as when this is observed there will be a saving of fuel; and as farther economizing in that direction we start fires early in the afternoon, so as to have the flues, or, if hot water, well warmed up against cold setting in; for whenever the temperature gets low it takes double the quantity of coal to expel the cold, when once in, than it does to keep it out.

When a humidity cannot be kept by syringing overhead, then it is a good plan to have long flat zinc or iron basins placed on the flues, filled with water.

Many people kill Red Spider and the Thrip by painting their flues with a wash of sulphur and water; the only objection to this is the bad smell emitted therefrom. We keep these pests in subjection by seasonable applications of pure water. In fine, cleanliness in everything appertaining to greenhouse keeping is essential; he who does not collect at least twice every week all decayed leaves, and hold in subjection all insects, and the cobwebs from accumulating in corners, is not fit to have charge of any collection of plants.

Sometimes Camellias set more flower-buds than it is desirable for the plant to bring to perfection; in such a case we would now remove the superfluous ones with the finger and thumb. Pelargoniums and Geraniums are better adapted for spring flowering when kept in a low temperature and a dry atmosphere: a free supply of water at the root injures them.

Sweet-scented Violets grown in the pots ought now to be removed to the greenhouse, and those to bloom in frames should have the surface of the ground stirred up, taking care to give air freely in fine weather, and protecting from frosts by straw mats or wooden shutters.

Should your Hyacinths have been potted early, and the pots be found filled with rootlets, then a few plants may be moved into a warm part of the greenhouse.

Lawn and Pleasure Grounds.

The forests which bedeck our hillsides and descending down into the valleys, present now an autumnal change in the foliage, reminding us that we too must "fade as the leaf;" but so long as our sense of the beautiful remains, we cannot but turn with delight in admiration of the varied tints presented in the Scarlet Oak, Sweet and Sour Gums, whose brilliant crimson leaves contrast strongly with those of the pale Chestnut, Tulip tree and Ash; while the Cedar and the Pine, with their green perennial garb, have only to wait a short time for the fall of the former, when they in turn will form the most attractive feature in the landscape. Now is the time for the planter of trees to take a lesson from nature, so as to be the better able to make an artificial arrangement in the growing together of such kinds whose foliage would form a chaste but elegant contrast on a lawn. And just here, we remind our readers, that the time is now at hand when such trees may be lifted with safety; and should the approaching winter prove open, this kind of work could be continued on during its whole length, into early spring. But we wish it to be understood that we advocate fall planting for deciduous trees, and the earlier in the fall the better, as roots will be made before hard weather sets in.

All roots of Gladiolus, Tuberoses, Tigridias, &c., should be taken up and carefully dried before being stored away. Tritomas will stand out all winter, if the ground is dry and sandy, by being protected with leaves and a few Evergreen branches, but we find it better to lift and store them away in a cold frame; we treat the Pampas grass the same way. Herbaceous plants in the open ground are advantaged by being lightly protected during the winter with leaves and a little stable manure thrown over them, to prevent them being blown away.

It is a good idea to spade up the flower beds in the fall, observng to leave the surface as rough as possible; so that frosts may reach the larvæ of insects as well as pulverize the soil, should it be stiff.

The Maryland Maiden's-Blush Apple.

You will recollect that two years ago I brought to your office a few specimens of an apple which has long been known and cultivated as the "Eastern Shore," under the name of Maiden's Blush; but which is widely different from the true "Maiden's Blush" as described by the standard authorities. You called the attention of Mr. Brackenridge and others to the fruit, but it was not identified by any who saw it; since that I sent to Chas. Downing, Esq., specimens of the same apples, and during the recent exhibition of the American Pomological Society in your city, I called the attention of Mr. Jno. J. Thomas to it, as it appeared on the the exhibition tables, with the same result as before: neither Mr.

Downing or Mr. Thomas identifying it with any variety known to them as American authorities.

For this section the "Maryland Maiden's Blush" is unsurpassed as a fall and early winter apple; there is no variety grown here that is superior if equal to it as a cooking apple; for canning it is No. 1, and for eating in its natural state, when fully ripe, it has no rival; while its uniform and almost unfailing prolificacy render it a favorite with every one acquainted with it. Mr. Downing, in a letter relating to the apple, suggested that in order to distinguish between it and the Maiden's Blush known to the books, this one for the present be prefixed with the word "Maryland," and with this distinction the few nurseries that propagate it, I believe, sell it. The fruit is medium size, or rather above medium; oblong, tapering slightly toward the calyx; skin yellow more or less, blushed with lively red on exposed side. Season—beginning of October to middle of December. Uses—table, drying, market, or cider. EASTERN SHOREMAN.

Private Places Selling Plants, &c.

The following from the *Gardener's Monthly* hits this thing so nicely that we must ask you to permit us to quote it entire: W. F. M.

AMATEUR MARKETING.

"A Cabbage," Baltimore, Md., writes:—"I engaged in this place as gardener, and it suited very well for a year, but the master wishes me to sell the surplus fruits, flowers and vegetables to help pay the garden expenses. I do not think it is right for a gentleman to engage in this business, and wish you would say so in the *Gardener's Monthly*. Doesn't it hurt the trade?"

[This is a question which the *Gardener's Monthly* cannot decide. Every gentleman must decide this for himself. Amateur gardeners, of course, follow gardening for pleasure, and when you engaged with him it was to administer to this gardening pleasure, and it may not be quite fair to you to be called on to undertake commercial affairs without your entire consent. So far we think you are right. Perhaps also the "trade" may not feel kindly toward one who sells as he does. He sells for fifty cents what cost him a dollar to raise, simply because "he has to keep a gardener anyhow," and he "may as well get some of it back again," and yet when the "trade" offers its dollar's worth, he is told it can be "had for half that," and he has to sell at a loss. But having admitted all this, we still cannot see why a gentleman has not a perfect right to do it. Suppose he finds it costly to keep a carriage and pair of horses, why not hire it out to carry passengers to and from the depot at odd times? He could afford to do it for half the price of the regular "cabby," as profit is not in question, so much as the "bringing of a little in." Or, if he choose to hire out his piano for public concerts at half the price of the music stores; his pictures at a small percentage, to help a show; or even get his cook to bake a few pies and cakes at odd times, and dispose of them to the confectionery stores for what they will bring, in order to help pay the servants' wages. We know of no reason at all beyond what every one can decide for himself why he has not a right to do so. It is a matter of taste.—*Ed. G. M.*]

Information for Fruit-Growers.

Editors American Farmer:

Under the above heading, on page 307 of the September No. *American Farmer*, Mr. J. Fitz, of Va., spreads out rather a severe reflection upon nurserymen. The cause for this very unjust accusation upon the part of the gentleman named above, is not for me to divine; and even if that was possible, doubtless it would be of little interest to the intelligent readers of the *Farmer*. Mr. F. says, "nurserymen do not generally know what would suit your location; and, besides, they must get off their stock and attend to their own interest." Now in the first place, independent and above all manner of things tainted with egotism, I assert it as a fact, founded upon fair and impartial experience, that *nurserymen generally* know more about fruit, and the adaptability of varieties to certain soils and localities, than do any other class of people; the facts too are plain why this is so. First, because *generally* they have natural inclination to possess such knowledge; and next "in attending to their own interest," this is a matter of the first importance. I would not arrogate to the nursery craft inexhaustible merit, in point of pomological information, as does Mr. Fitz to his Fruit-book, which he so kindly *recommends* his Southern friends to procure; but I still am impressed with the belief, that there are many nurserymen,—some, too, in the "Old Dominion,"—who, "*if to their interest to do so*," could write a "Fruit-book," containing as much *solid* and *practical* information relative to soils and situation for certain varieties, accompanied with "recommendations" which it would be fully "as safe" to follow as are those of "The Southern Apple and Peach Culturist."

"Errors in selection are not easily remedied," says Mr. F. "The amateur only can afford to test many sorts; and, as a general thing, a few varieties, well known to succeed in your section, &c., are mainly to be desired." Now these I regard as good "every-day facts," with which every reader of the *American Farmer* is familiar; but following those declarations, in the same article, I find Mr. Fitz *recommending* to those on the Eastern Shore of Md., and in Delaware, who intend to plant, such varieties of apples as Nansemond Beauty, Mason's Stranger, &c. I ask, are these varieties "*well known*" to succeed in the localities for which he recommends them?

If so, who besides the all-knowing Mr. F. *knows* anything of their suitableness for those sections? For *facts* in relation thereto, as a nurseryman I confess myself in default.

As to imparting information to "Fruit-growers," if they be worthy of the name, neither the "nurserymen who do not generally know, nor the "Open Sesame" in the shape of "The Southern Apple and Peach Culturist," which "gives all the information," &c., will be sought after. In conclusion, as I have "to get off my stock" and "attend to my own interest," I will as heretofore, keep my "List" close to home.

Respectfully, J. W. KERR,

Denton, Md., Oct. 9th, 1876. *Nurseryman.*

Poultry Yard.

The Value of Dry Earth

In the hen-house, more especially where wooden floors are in use, is not generally appreciated. Any kind of clean loam, or clay-soil, will answer. But it should be gathered *now*, before the fall rains render it heavy and soggy, and plentifully stored away in a corner or heap, inside the poultry-house.

Occasionally, a portion of this fresh earth may be thrown around the floors, or scattered under the roosts. A compost heap may shortly be begun. Mix the droppings from the roosts where the fowls pass the night with some of this. Rake it away once or twice in a fortnight—and, next spring, you will have a rich mass of manure for your vegetable garden, or top-dressing for the grass, or lawn around the house, that cannot be excelled for its quality. It will cost you nothing but a little easy labor, once a week. The earth will help to keep your house-atmosphere pure, and, if you add the fallen leaves around you to the mass, it will be improved, when they rot away during the winter.

We have Frequently Advised

The use of common "chandlers' scraps" to vary the monotony of the daily food ordinarily distributed to poultry. But this should be done judiciously, since these "scraps" are very oily, or greasy; and too much of them fed to fowls, or too often given, will scour the birds. Twice a week is sufficient.

They are nutritious, and fowl-stock will devour all you will give them, with avidity. The scraps are pressed at the chandlers' establishments, and are sold in large cakes—like big cheeses. Latterly, the stores where this article is kept for sale, offer it broken up, or ground, in small pieces. In this form it is much handier to feed out.

If bought in the cake, it may best be first broken into pieces the size of a hen's egg. This may be done with an axe or hatchet. These should be soaked over night in cold water. Then take a stout box, or half barrel, and with a sharp spade for a chopping-knife, reduce it. Your scalded meal or bran and boiled potatoes (one-third each,) well kneaded through it, will make a capital morning mess, say once every three days.

In Cleaning the Hen-House,

If the careful poulterer will look to the *under* portions of his perches, and as faithfully apply the saturated kerosene-brush to this part of the premises, as he does to the top and sides and crevices, once in a while, he will find it profitable for the removal of vermin.

Lice brood and breed and hive *under* the roosts, in great numbers. In the daytime, they are thus partially secreted. In the night, when the fowls settle down to their roosts, these millions of parasites crawl up, and nestle themselves comfortably among the birds' soft feathers—where they subsequently stick to their new warm quarters until they are carbolated or sulphured out again.

Keep the roosts clean, constantly, above and below. Thus you may help to render the lives of your birds comfortable. It entails some labor to do this effectually, we know; but continual vigilance, in this regard, will pay well for the trouble. We know the advantages of what we thus advise.

THE FALLEN LEAVES should all be gathered this month and next, to be strewn upon the hen-house floors. These are a grand thing for the pent-up birds, while they last, and when mixed with the droppings of the confined fowls, they form an excellent material to add to the compost heap, for use in the vegetable garden, next spring. Those who have tried this plan, consider this mixture quite equal to the same quanity of guano for enriching the soil, and the expenses of thus preserving both is but nominal.

[The above suggestions are all from *The Poultry World.*]

Management of Poultry.

Perhaps fowls in the farm-yard suffer more for want of pure water in Winter than from any other cause. In the Summer they usually get plenty and do well enough, but in our cold climate, when springs and brooks are frozen solid, when tanks and swill pails are no longer available, then their daily allowance is entirely cut off, and often for weeks, and even months, they do not get a drop of water. They eat snow when it is to be had, and they could do nothing worse, for this has the singular quality of making them poor, and they should never be allowed to eat it. If they are supplied with water they will not eat snow. This treatment, with very little variation and a few exceptions, is the rule among farmers. The result is that millions of fowls die annually of that scourge of poultry—the cholera. Years ago the cholera was dreaded as a most fearful plague among the human family. Towns and cities were devastated by its ravages; but of late years, by cleaning out the cess-pools of filth in the cities, and by the proper measures, it has lost its terrors.

Here lies the great remedy for chicken cholera—cleanliness and proper care. This will do more to rid the country of this plague than all the patent nostrums in existence. With a very little outlay of money and time you can build a good comfortable house for your fowls. Let it face the south, with windows to give light and warmth when the sun shines. Spend an hour each day in feeding, watering, and caring for your fowls. Remove all the droppings every day or two, preserving them carefully in a heap; your American guano will repay you for all the care and feed you give your fowls. Keep your house clean and well ventilated, and you will have a plentiful supply of eggs in Winter as well as in Summer, and the time that you spend in the care of your fowls will pay you a larger per cent. than any time you spend on the farm. —*Poultry Review.*

Work for the Month—November.

As the days begin to shorten, the farmer who ought to have his fall crops all seeded, must push forward the work still remaining to be done before winter sets in in earnest—the securing of roots and potatoes, and the making every thing secure for the cold season, aiming too to forward as far as may be the spring work by whatever plowing may be done now.

Grain Fields.—See to it that water furrows are properly made and kept free, that no surface water may remain upon the plants and cause thereby their destruction.

Corn Crop.—This should be made safe from the risks to which it is liable so long as it remains in the field. Have fodder carefully stacked.

Tobacco ought to be as much protected as possible from winds and rains, allowing the houses to be open only in fine, clear, drying weather. Be cautious not to strip too soon, waiting for the leaf stems to become fairly dry; but as soon after this as possible the better.—Great care should be used in assorting and tying up, very much depending upon this and in neatness in handling.

Root Crops.—All such as are likely to be hurt by frost ought to be harvested. Sugar Beets, Mangels and Carrots, Turnips and Ruta-Bagas, may remain out longer, especially the latter. Parsnips need not be dug, except such supplies as will be needed for market or home use before spring—freezing will improve the others. The same is true of Salsify. Potatoes ought to be dug only in dry weather, and be put into the cellar as quickly as possible after the moisture dries off, exposing them as little as possible to light and air. Turnips, &c., are conveniently kept in trenches, or in conical piles lightly covered with earth, and other coatings of the same added as the weather gets colder; caution should be used to have them so located as to be well drained.

Plowing.—Stiff clays and sod lands for spring crops are advantageously plowed during the fall and winter. The more pressing spring season is thereby relieved of some of its work; and, besides, the soils are benefitted by the action of the frosts and thaws which ameliorate their mechanical condition, and also aid in liberating some of the plant-food locked up in insoluble combinations.

Live Stock.—Do not delay to put up your fattening hogs, and as soon as they are used to the change from a range to being penned, put them on full rations and push them ahead as fast as possible. Give them frequent messes of bran and soft feed, and do not forget to keep the pens supplied with rotten wood or charcoal, and also with ashes. A little salt should also be occasionally given, but caution is to be observed in this. "When given in any but very small quantities to pigs it is very poisonous. What a yearling heifer would lick up clean and ask for more, would kill a large hog. It operates as an acrid poison, affecting the blood, producing inflammation of the intestines and congestion of the brain. The symptoms given are such as might have been caused by salt poisoning. The best remedy is to give a pint of linseed oil and afterward plenty of thin linseed gruel. Pigs should have a small quantity of salt given to them occasionally, but in consideration of the manner in which it operates upon them great care should be exercised in regard to it."

Milch cows should be made comfortable by good, warm, dry stabling, free from chilling drafts. Begin early to feed well if you wish to keep up their flow, and do not omit the daily mess, as roots, carrots, mangels or turnips.—Insist upon regular feeding, watering and milking.

Young cattle and sheep ought at least to have sheds provided for them, that they may keep dry. Sheep, too, ought to have dry shelters open to the south, to which they can retreat in bad weather.

Horses should be fed, cleaned and watered with regularity. Give them comfortable quarters, but be careful not to expose them to drafts. If practicable to give each one a loose box, it is very desirable.

Manures—The winter permits great accumulation of materials for manure-making if the opportunities are seized. Composting the stable manure with vegetable matters will largely increase the bulk. Opinions differ as to the economy of this, and we commend to all the discussion, on another page, of the Gunpowder Club, where a variety of practice obtains.

Planting Orchards.—No portion of the farm gives more profit, conduces more to health, or contributes more to comfort, than the orchard. Good fruit and abundance of it should be the motto on every farm,—large or small. If our injunctions on this topic have been heeded in the past, now is the time to set out the trees.

Implements, Wagons, Gears, &c., that need repairs ought to have attention at once before they are put away for the winter. Grease leather work, and coat the wood and metal of tools with crude petroleum.

Vegetable Garden.

Clean off the asparagus stalks and give the beds a good coating of rich manure well rotted. Give air to cabbages in frames, and to those out-of-doors draw a little earth to their stems. The same to cauliflowers wintering over. Those of the past season not heading out may be heeled in in a cool cellar or planted out in a cold frame; in the latter case give plenty of air.

Continue to earth up celery, but be careful not to let the earth get into the hearts. Lettuce in frames should be planted now; give air continually. Root crops should be harvested. Thin out spinach and keep it clean; also German sprouts. Clean off the remnants of old crops, and always when practicable have the garden plowed or forked up before very cold weather.

In storing potatoes have them dry before putting away; do not pile them too deep, and keep the cellar where they are dark.

The Gunpowder Agricultural Club.

Messrs. Editors American Farmer:

The Gunpowder Agricultural Club met Oct. 20th, at the residence of T. T. Gorsuch,—S. M. Price, foreman. The main point of attraction on the round of inspection, was some fine imported Berkshire hogs and their progeny. This breed of swine has always been a favorite with our host. He was among the first to introduce it into this section many years ago, and the qualities which then recommended it to him as the best farmer's hog, he believes the stock still possesses in undiminished degree. He turns to their breeding again with that zeal, care and earnestness so characteristic of the man.

Public Roads.

Resuming the proceedings, in the course of the same Mr. Edw. O'Donovan and Capt. Haile, delegates from the Balto. Co. Club, addressed the meeting on the subject of the county roads. Mr. O'Donovan said they had been sent by their association to bring this matter to the notice of the Gunpowder Agricultural Club and to ask their assistance in the adoption of measures for the improvement of the common roads. It is an affair of vital interest to all farmers. In the sale of a farm the first question asked by an intending purchaser is what kind of roads lead to and from it. Sufficient money is appropriated to make the roads good if properly spent; but it is wasted. He saw recently a man with a horse and cart engaged in doing on the road what a man alone could have done in a few minutes; so the appropriation is frittered away. Besides, a system of mending is pursued calculated to keep the roads at their worst; for if the road is in good condition, that affords a reason for lessening the appropriation. Unfortunately the farmers do not seem alive to the importance of their interests, for, though when this matter is broached, they are loud in proclaiming the need of action, they are nevertheless unwilling to put their shoulders to the wheel.

Capt. Haile said the existing road law is the worst we have ever had. He thought a better one could be framed by bringing the farmers' clubs together and securing their combined wisdom and effort. We had the best roads under the law of '70. However, no law can relieve us which does not provide for making the roads hard,—there must be a firm substance at the bottom. We must aim to adopt some plan by which this can be accomplished. The usual way of throwing out some dirt which is washed away by the first rain, and calling the road mended, is a pure waste of money. The money appropriated should be laid out as far as it goes in hardening the roads; and stones are to be found everywhere and they make a hard bottom. Farmers who live along the roads should feel enough interest to haul the stones collected from their fields to convenient points for use; this would render good service.

The opinion of Col. Taylor, Master of Balto. Co Grange, who was present as a guest, was called for. He said among other things that the law is bad and is badly carried out. To devise some method of improving the road law was a subject the county grange had been agitating since its formation. At the meeting held to-day they had the draft of a law before them, which the committee in charge of it said was free from all objectionable features introduced into the management of the roads since '60. This draft will be given to the public and honest criticism solicited.

As to basis his own views are decided,—he looks at it in a business light. He considers the contract system the proper one. It is a recognized business principle, and its very general adoption recommends its reliability and use. Why not practice it in making and mending roads? In reference to construction he agrees with Capt. Haile,—we must use some hard substance. The most expensive road is the dirt road. First cost is small; but there is no end of outlay to keep in repair,—it is the same thing every year. Once accomplish hard roads and the expense of keeping them up is small; the chief outlay is in breaking the stones.

In the eastern section of our country there is in use for this purpose a very simple piece of portable mechanism, called Blake's stone-crusher. Though its cost is large it would pay Baltimore county to own two or three. It is adaptable to size,—breaks large or small,—running down to one inch square. A traction engine operates the machine, and on level ground could be employed by attaching a roller in forming a smooth surface.

Mr. Ed. Austin (a guest) advocated the crusher spoken of by Col. Taylor. He was familiar with its operation. Where it is used the roads are splendid.

Jno. D. Matthews spoke of a plan in practice in Bucks county, Pa. It is to divide into small sections; select a supervisor who has absolute power in the matter of roads; can levy for their maintenance what tax he considers requisite. From his assessment there is no appeal. It works well there. They have fine roads.

D. Gorsuch thought we have law enough; unfortunately no one sees to carrying it out. Local organizations of persons concerned, with executive committees, to give the changes in roads and bridges, their construction and repairing, proper attention, will bring us relief.

The proposition for co-operation offered by the delegates from the Baltimore County Club was accepted and a conference arranged.

Discussion.

Question: What has been the experience and observation of the members during the year in saving, applying and economizing barn-yard manure?

T. T. Gorsuch.—The most economical way to apply manure is green from the stable. Is in favor of making compost, but it is expensive. When he does compost it is in the yard,—layer of earth and one of manure, letttng lie all summer and using in the fall. As a rule he applies all his manures in the spring on corn. (*q.*) Do you apply directly to the land? (*a.*) Does when ground is fit to haul on, and to land intended for corn; not to pasture land. What is made in summer he generally composts. He sees no reason to change. (*q.*) Years ago you were of the opinion that barn-yard manure varied strangely in its effects, and apparently unac-

countably; is your experience still the same? (*a.*) Yes, to a certain extent.

Dickinson Gorsuch, who put the foregoing question, stated that his experience in reference to this matter formerly coincided with his uncle's, but does not now. Of late years his barn-yard manure is certain and uniform in giving him a good result. He attributes the favorable change to better feeding and better management. T. T. G.—Recently he has been able to rely on his manure with more certainty. (*q.*) Under what circumstances did you get no good effect? (*a.*) Applied in every way, viz: top-dressed, plowed down and shoveled in. He has put out manure on the other hand that seemed little better than worthless, nevertheless it acted like a charm; conditions and mode of operation being about similar. (*q.*) How do you account for the difference? (*a.*) Some chemical process going on in the soil.

Josh. M. Gorsuch.—He has tried to save in the way of composting. He finds the old way of farming the safest to secure a set of clover. By the present system, in almost general use, of applying manure to corn, its strength is almost exhausted before the clover's turn comes; whereas if applied on fallow for wheat followed by clover, one is far more likely to obtain a set. He finds a necessity for going back to old principles. The young clover plant needs great care in setting. Compost he would apply to the surface and work in.

W. W. Matthews.—He makes an effort to plow part of his corn land in the fall. On five acres that he did not plow he applied manure direct from the stable. He thought during the winter that all the strength of the manure would wash away and be lost; but in gathering his corn the good results of that manuring are plainly apparent up to the very shock row. To apply as made direct from the stables has not been his favorite method. Last summer he applied some to grass land intended for corn next year, with wonderful effect so far. Composting has been his usual manner of treating manure; does it in his yard; gives less work if dirt is convenient. (*q.*) What material do you use for composting? (*a.*) Ditch, bank or fence-corner earth.

A. C. Scott.—His plan has been to put out all his manure fit to go out on corn ground, after plowing. One year, on account of wet weather preventing him from plowing, he put his manure out before he plowed and turned it under. He has yet to see any benefit from that manure. What manure is left over from spring he piles in his barn-yard and applies to wheat ground. It is never any benefit to him to plow under. (*q.*) What is the nature of your soil? (*a.*) Differs; his north land is light; south, clay. The action of manure well worked in on corn land is very favorable in promoting a good grass crop.

Ed. Scott.—He follows T. T. Gorsuch's plan; he supposes members will call it the lazy plan, but from good results obtained he feels justified in continuing it. He hauls out fresh from the stables as it is made, after or before plowing. Corn-stalks he piles. He thinks it does not pay to haul dirt to mix with manure; prefers mixing them in the field. He has hard work enough to haul out his manure, to say nothing of hauling dirt and hauling it out again. This fall some of his manure is plowed under and some has been applied on the surface; he will be able to test the two modes. (*q.*) You say composting does not pay; what value do you put on a four-horse load of manure? (*a.*) $1. (*q.*) Would you take $2 per load? D. Gorsuch thought it worth more, and that by composting, for every three one is gained. He then asked how a team could be employed to pay better. He knows no farmer who has a better opportunity to avail himself of the advantages of composting than Ed. Scott.

Dickinson Gorsuch.—In twenty-five years he has gone through many changes of opinion in the matter of treating and applying manure. He was at one time a strong advocate of plowing down; he did not want to leave uncovered from Saturday to Monday. He has since made an entire change, after making conclusive experiments. After his barn-yard (which is dish-shaped) is empty, he hauls into it twenty-five dump-wagon loads of earth, say thirty-five bus. each, and spreads it over the bottom. This gives him a layer from three to six inches deep. It is advantageous in several ways to start with this layer of soft soil; in cleaning out the next year the yard scrapes with far more satisfaction, and he gains that much good manure. He piles on this layer, and makes the bottom of such dimensions that when it is complete it shall bear some resemblance to a stack. The manure is wheeled out of the stables every day, and spread evenly and tramped by the cattle. What manure collects on the sides he takes off. This year he had no firing. When he can he gives his pile a coating of earth, which should be as dry as possible; he takes it from a wash which is caught in an artificial basin near his barn-yard, and constructed for this purpose. He has tried clay, but it does not answer. This pile stands over until fall; it is plastered every week, and when no more is to be added he coats the whole with a good dressing of earth from the wash—this decomposes any rough material. His pile will average two hundred and fifty 4-horse loads, yet there is no firing, and almost no loss from leaching. The pile sheds much of the rain that falls, and what it takes up is not more than enough to keep it properly moist. He is satisfied with his plan. One load of the manure he makes now is worth two of what he formerly made. Difference is partially attributable to better feeding. He feeds hay, bran and corn. Bran ranks third as a rich food, that is after oil-cake and cotton-seed. During the winter he incorporates horse-stable manure; it helps keep up fermentation, so that his manure is decomposing all winter. His object in applying on wheat land is to get grass, and he succeeds,—besides, he looks on his plan as the right course to secure permanent improvement. He applies a portion on corn land, and when it is well worked in, besides making him good corn, it helps the succeeding grass crop; applied to such land in the fall it acts as a good mulch and absorber. (*q.*) What damage results from fire-fanging? Answered by Jno. D. M.—he had asked a gentleman, who professes to farm scientifically, why he shedded his manure. His answer was, he wanted it to fire-fang. T. T. G.—Some people carry too much science into their farming.—

(*q.*) Is not one load of earth in the bottom of your yard better than two of manure? (put to D. G.) No, sir, he has noticed particularly.—(*q.*) Is sheltered manure not worth more than that which is exposed? (*a.*) Not according to his plan—barn cellars below the stables are in use in the north; the manure is dropped into these and adulterated with dry earth; it may be an advantageous method. Mr. O'Donovan thought shedding an advantage. (*q.* to D. G.) Does not the water penetrate your pile? (*a.*) Not much if the pile is properly attended to. T. T. G.—He has no doubt a properly constructed yard will prevent much loss; there need be none; no more falls on a well-compacted pile than is necessary to keep it moist. Mr. O'Donovan thought no way of managing manure equal to that of sheltering. D. G.—He had formerly tried the plan of piling, but had not been satisfied with it; now, however, he prefers it to any other.—Jos. Harris practices it, and he is high authority.

Ed. H. Matthews.—Ed. Scott has expressed his views. He prefers hauling out on sod for corn. A lot of from seven to eight acres, top-dressed direct from the stables, had carried this summer five head of cows and nine of horses, and the pasturage still good.

N. R. Miles keeps his manure over for wheat almost invariably; scarcely ever puts it out for corn. If he does use it for corn it is applied in winter after plowing. He hardly ever fails of a grass set. Much is gained in saving manure by keeping cattle in the stable as much as possible and littering. He is astonished at the amount that accumulates in this way. Like Ed. Scott, he does not favor composting or piling. Agrees with Mr. O'Donovan that manure should be sheltered where cattle can pass over it continually. Has never had it to fire-fang under these conditions; it is much stronger. (*q.*) After manure is applied to land does its strength sink or evaporate? This was answered by the querist, T. T. G. He thinks there is little lost by sinking; for example, in a garden where manure is used every year, the sub-soil is as poor as anywhere else; this has been carefully tested. N. R. M.—There may be losses both ways; sometimes he turns manure under and gets a benefit; sometimes he derives no benefit from that applied on the surface. T. T. G.—He has had the best do no good and bad do best. The farmer gropes in the dark,—he is surrounded by mysteries.

S. M. Price.—He is more strongly convinced than ever of the advisability of hauling directly from the stables, even if six months beforehand. Manure goes farther; its strength is carried into the ground, and a good sod is the result; it not only makes a good crop of corn, but also grass afterwards. In regard to manure in the yard, he gathers all he can. It is best to keep cattle in the barn-yard. As to composting, it would pay if the material was handy. This year he took advantage of a wash from a neighbor's field, and he thinks he gained by it. He likes his manure on the sod for corn; he prefers to take it for this crop and use a fertilizer for wheat, which seems to require such a stimulant. Last season he raised a good crop with 100 lbs. fertilizer per acre, and got a good set of clover. Is in favor of using a good deal of earth in the hog-pen; hog manure will bear heavy adulteration.

I. M. Price.—His practice is to put out all the manure made in winter for corn. He would put out either six months before plowing or after plowing, on top. What is made after hauling out in the spring he uses for wheat. He prefers piling and composting. Is not certain whether it pays if composting material is not convenient.

Joseph Bosley makes it an object to collect all the material he can, and to increase the value of his manure. He keeps his stables and yard well littered with straw. This year the club saw his pig-pen at harvest, and how he was managing it. Sheep manure is thrown into the barn-yard. He tries to put out his manure three times a year, and avoid the labor of putting all out at one time. If he does not get through with plowing in the fall, plows some under for corn in the spring. Agrees with the Dutchman, viz: chief point is to put it out; it will do good in whatever way applied.

Jno. D. Matthews.—From recent experience he is somewhat at a loss for a settled plan in the management of barn-yard manure. It has been his preference heretofore to apply to sod; he does not want to plow up a poor piece and make it rich afterwards. This year gave him enough of putting out on grass. His son had spoken of the eight-acre lot and of its carrying all summer 14 head of stock. The lot has produced a heavy growth of grass, but it is distasteful to the stock, and they will not eat it if they can get anything else. They have cropped the fence-corners bare, and poke their heads through the fence and eat on the outside; are anxious to get out; will go anywhere else. Some manure plowed down in the spring for corn had produced a very marked result,—an increase of thirty per cent., the difference visible to the furrow. I think he must hold his manure and let it rot. He has been afraid to apply for corn.

B. McL. Hardisty.—He has been an advocate of composting, but he is done with it. Had experimented with composted and uncomposted manure on a poor strip. Where the latter was applied the yield was fifty per cent. greater,—both put on the surface. This year he is applying direct from the stables, and he proposes to do so in the future.

Capt. Haile.—His experience teaches him it is best to put manure on green,—he finds it goes farther and does more good. He has tried every plan; he guarantees it will make a sod. He spreads from the cart or wagon. His cattle do not refuse to eat the grass that grows after manure thus applied.

Mr. O'Donovan.—His idea is to pass everything through the stables. Cleans out once a week. Thinks piling to stand over summer is not advisable. The wash from such piling and the rank growth of vegetation which marks its course is sufficient proof of the loss one is sustaining. He is thoroughly convinced of the value of shedding manure,—has tried it to his satisfaction. By letting cattle tramp it the moisture is retained.

Granville Matthews, (delegate from Juniors.)—He could confirm the statements made in reference to the certainty of securing clover sets where manure and fertilizers are used in conjunction. Some sheltered manure which was very light and which he supposed would do but

little good had produced surprising results plowed down for corn. It was tested by the side of some lying over the barn-yard exposed.

Col. Taylor.—He would prefer piling. He can't see that there is any leakage or evaporation; rain that falls is retained. When hauled, manure comes out fine, in better condition to spread than from under sheep well fed and sheltered.

S. M. Price spoke of the fine effect of composted sheep manure applied to frozen sod ground and hillside during the winter. He could not see that there had been any loss from washing rains. It gave the grass a very early start. T. G.

Baltimore Co., Md., Oct. 25, 1877.

Wheat, &c., in Nansemond, Va.

Messrs. Editors American Farmer:

In consequence of the success of several of our farmers the past spring in growing fifteen to twenty-five bushels of good wheat without bought fertilizers, many have been induced to seed from five to fifteen acres this fall. One is seeding fifteen acres on pea fallow, top-dressing with shell lime, ploughing in the wheat with one-horse plows, sowing two hundred pounds per acre of Guanape guano, harrowing this and seeding with timothy. Several have cut off their corn, ploughed in the wheat, sowed guano, harrowed and seeded with timothy. The writer has turned in oat land that had a heavy crop of volunteer clover, harrowed well the surface, sowed the wheat and fertilizers, and proposes a light seeding of clover and orchard grass in spring. This land was in clover two years, then corn, followed by oats, and now to be again two years in clover and grass. The major part of our people prefer bearded red Mediterranean seed, which they think less liable to rust than any of the bald or white varieties. Fultz has been grown here for several years past and has yielded well. We hear no complaints from those who have had it ground for flour. Three or four parties are now seeding a few bushels each of the Clawson wheat, with a view to test its merits as compared with the Fultz and bearded Mediterranean. For the most part our lands are too light in texture and too poor to grow wheat with profit. We find lands seeded in clover, orchard grass and timothy, become so infested after the second year with broom straw (in general we have seeded clover and orchard grass in spring on oat land and timothy on winter oats or wheat in fall) that we are compelled to break up the land for corn. Sheep might help us to keep lands longer in grass, but the dogs have caused such losses that very few care to risk money now in sheep-keeping. Cotton to a limited extent is grown here and is opening very late. The peanut crop is good, but the yield will not be more than half a crop, and many farmers think the excessive rainy summer caused the vines not to fertilize the blossoms well. In general the corn crops are fine on uplands, but on many of the low lands there is a failure almost entire,—so wet, they say, it was impossible to cultivate after the corn came up. Neighborhood price of corn here is now sixty cents per bushel. Field pea crop is fine, what there is of it, but seeding this valuable crop was much neglected, and sweet potatoes, which in price are low, not worth shipping, will be fed by many to the few hogs left by the ravages of the plague last winter. The tendency to wheat, corn and grass-growing, bread and meat crops, in lieu of perishable and uncertain truck crops, is, I think, increasing. G. W. B.

Suffolk, Va., Oct. 26, 1877.

Agricultural Education in Virginia.

The success crowning the useful Virginia Agricultural and Mechanical College, and made more conspicuous by comparison with the failures which have been the only outcome of the one in this State, has had the effect of inciting some to attempt to belittle its work, and seek to ascribe to other than the true reasons the significant fact that more applicants for the advantages of its courses are regularly offering than can be accommodated.

It having been said to us by one who claimed to know the facts, that the Virginia institution was rather a popular high-school for general education than one specially adapted to the wants of farmers and mechanics, that the greatest fredom was allowed to elective courses, and that very few, in fact, took the agricultural course, we wrote to Dr. Minor, the president of the Blacksburg College, to ascertain the facts, and received the following reply:

Editor American Farmer:

Dear Sir: In a letter received to-night, you are kind enough to say of this college that you have not hesitated to hold it up as a model of what such an institution should be in the present day and in States situated as Virginia and Maryland now are, but you ask that I will furnish you authoritative answers to certain questions which have been asked about our work by others, viz: whether it is really a special school for farmers and mechanics; how much liberty is allowed to students in the selection of their studies; whether students are really required to follow the courses as announced in the catalogue, and whether any large number of students omit or neglect those courses.

Our curriculum begins with as high grade of instruction as our country common schools can yet prepare boys to enter upon it, and they are not admitted younger than sixteen. It is arranged for but two courses, one for farmers and one for mechanics; much of the work being, of course, common to the two. It permits no Greek and requires no Latin, and very few study Latin. No other profession or occupation is provided for at all; even the military instruction required by the conditions of the land grant is limited to the daily drill. No part of the time is expended in more advanced instruction in the sciences or in surveying than is included in the curriculum. There are no studies except those indicated in the curriculum, and all of these

must be taken by every student, unless he is of age, whether he is a candidate for graduation or not. There is no other, however, to be obtained but graduation in the schools of Agriculture and of Mechanics.

Manual labor by daily details has been required from the first of every student not physically disabled, and all the other work that can be furnished is eagerly sought by students at moderate compensation. The prejudice against handwork alleged to have existed in Virginia, has certainly been done away with here, if it ever existed.

The reports and announcements of the college have been so worded as to show that the whole of its resources have been devoted to meeting the wants of those for whose benefit it was established, and so to cheapen the cost of living as to bring the privileges offered within their reach, and that no rivalry was sought with any of the professional, literary or higher scientific schools.

With thanks for the kind expression of your good opinion, I am, sir, yours truly,

C. L. C. MINOR.

Agricultural and Mechanical College,
Blacksburg, Va., Oct. 12, 1877.

It having come to our knowledge that another gentleman in this State had addressed somewhat similar inquiries to President Minor and received a reply, we applied to him for a copy, which was furnished us, and from which we take the following extract, which will be read with interest:

VIRGINIA AGRICULTURAL AND MECHANICAL COLLEGE,
October 1st, 1877.

DEAR SIR: * * *

Our exceptional success in a work where there have been so many costly experiments and so many failures, I attribute with confidence to one single cause: the fact that our whole force has been bent on the one task of meeting the wants of our young farmers and mechanics.

There were not wanting those who urged that our sails should be set to catch the winds as they blew; that we must meet the wants of the section of the State in which we found ourselves; that it might be well to make it a university for southwest Virginia. But the wiser view prevailed, that Virginia had done enough for classical, and for what is usually called scientific education, in her State University, in Washington and Lee University, and in the church colleges; that a new school to compete with them might do more harm than good, while a school suited to the wants and to the purses of the working farmers and mechanics would accomplish a work much needed and not yet provided for. So a very humble curriculum was arranged, into which a youth might pass from the country common schools, and which he might accomplish from that beginning in three years.

Here again arose a critical question, and it was after no small discussion that Greek was not permitted and Latin not required to be taught. Our students, coming almost always without any preparation even in Latin, must have either learned the merest smattering of the classics in the three years course, or must have else devoted to the classics such a large proportion of their time as would have left no room for the branches which should characterize a course for farmers and mechanics. English and mathematics must hold their places here as in other schools. Unless Greek and Latin gave way, how find room even for courses of lectures on agriculture and on mechanics, much less for any real instruction in chemistry, physics and natural philosophy, and their applications.

Besides offering the working man what he needed, we had to bring it within his reach. The custom of colleges in Virginia is to charge more board than our laboring men are used or able to pay. By furnishing to about one hundred of our students, in groups of from ten to thirty, mess-accommodations,—that is, dining room, kitchen and storeroom, in which they conduct their messes themselves,—prices have been so kept down that last year of those who boarded very few paid $15 a month; many more $13 for lodging and board, while a considerable number got lodging and board for $10. For the large number who lived in messes, with college lodging-rooms rent free, the cost was never above $7.50 per month.

The effort has been successfully made to make the young working man feel that in this college he is on his own ground, which has been the easier because the school is not a part of a university, so that the humbler culture attainable by the working man is not discredited by the higher advantages of those who are not stinted in what they may attain to by limited time or means. Every student is required to do hand work, and a very large proportion of them seek additional work for pay. So far from any false shame attaching to such labor, none stand in higher esteem than those who do most of it, and no position has been more honored than that of our master mechanic, filled by a post-graduate student.

Hoping that this statement may serve your purpose, I am yours, very truly,

C. L. C. MINOR.

North Carolina Agriculture.

The report for Sept. of Mr. Polk, Commissioner of Agriculture of North Carolina, shows that there has been a falling off in the general average of the Cotton and Corn crops since last report, occasioned principally by excessive rains, and destruction to crops and other property by high winds. The Commissioner says:

The experiment this year in many of our eastern counties has dispelled the long prevailing opinion that wheat and the grasses could not be successfully or profitably grown there, and encouraged by their success, a still greater effort will be made to grow these crops. With our present inefficient system of labor and our dependence on others for the necessaries of life, for which we pay exorbitant prices, out of the proceeds of a cotton crop sold at a price actually below the cost of its production, it does not

require the eye of a prophet to foresee the inevitably disastrous end that awaits us should we persist in the reckless policy of this one-crop system."

He says the interest is evidently growing in importance with the people, in the propagation of fruits, and "the excellence and superiority so justly awarded to North Carolina fruits at recent national exhibitions in the cities of Baltimore and Philadelphia, establishes for them a reputation which must soon attract to our State those who would excel in Pomology." The returns from the several railroads, as far as received, show that 3,155,267 lbs. of fruit had been carried over them this Fall.

The "Blind Staggers" in Horses.

Dr. J. H. W. G. Weedon communicates the following to the Centreville (Md.) *Observer:*

Seeing in the columns of the *Observer* statements of the death of quite a considerable number of horses in this and other counties on the Peninsula from what is commonly known among farmers as "Blind Staggers," "I write you a few lines upon the subject, hoping that they may be of benefit to some of your numerous readers. Several years ago I lost several very fine young horses myself from the disease "Blind Staggers" (vulgarly so called.) I used the treatment as prescribed by Veterinarians of high repute without success. I therefore abandoned the treatment as used by them, and began according to my judgment with a much more rational plan.

As far as my limited researches go, the disease is confined to malarious sections of country, and prevails only as epizootic during the malarial seasons.

Assuming the above as basis, miasmatic trouble would be clearly indicated. I therefore subsequently used as soon as symptoms were recognized pointing to the disease as follows: Calomel, Sulph. Quinine and Comp. Extr. Colocynth, each one hundred grains at a dose, followed every six hours thereafter by fifty grains of quinine, half ounce sweet spirits of Nitre and one drachm of Muriate Tincture of Iron, with the most remarkable beneficial results.

THE CRANBERRY CROP.—The Salisbury (Md.) *Eastern Shoreman* says:—"The cranberry crop in this section has been harvested, and the yield of fruit is satisfactory. The "bog" owned by Mr. Thos. Humphreys and others turned out 203 bushels, and that owned by Mr. W. S. Parsons about 60 bushels. Both of these cranberry-beds are within the corporate limits of the town, and are consequently small. As the berries command high prices, these small parcels of ground yield quite handsome sums to their owners annually."

ERRATUM.—The cattle described and figured on page 367 are the Red Norfolk Polled Cattle, and not, as the proof-reader has made them, red-polled cattle—and the residence of Mr. Taber, their owner, is Patterson, N. Y., and not N. J.

The Agricultural College and an Experiment Station.

Baltimore County Grange, No. 13, at its recent meeting, passed the following:

Whereas, the present management of the State Agricultural College does not conduce to the interests of, nor justify support by, the farming classes of Maryland, in whose behalf it was first established; and,

Whereas, it is stated by Prof. Atwater that the Experiment and Fertilizer Control Station in Connecticut has been the means of saving to the farmers of that State the immense sum of $300,000 in one year in the purchase of fertilizers; and the value and importance of such stations for the protection and advancement of agricultural economy being shown by there being no less than 60 of these institutions in Germany; therefore, be it

Resolved, that our representatives in the Legislature of the State be instructed to advocate the withholding of the usual appropriation granted to said Agricultural College, and to favor devoting the amount, or so much as may be needed, to found and maintain an Agricultural Experiment Station, such as have been so successfully operated in some parts of Europe and in at least one of the Northern States of this country; and that to it be assigned the duty by law of investigating the character and regulating the sale of artificial fertilizers according to the system now in force in Connecticut, Massachusetts, Georgia and other States.

Sunflower Seed for Fowls.

We have, for years, been aware of the value of sunflower seeds in the fall of the year, and in winter time, too, as a food for fowls. This plant should be grown by every poultry-grower in the country who has the opportunity to raise only a few stalks, even; for its properties for glossing the plumage of exhibition birds are altogether remarkable. Buckwheat, properly fed, will operate similarly; but the latter is, by far, too heating in its nature, in comparison with the other.

This plant is a very gross grower, but it yields wondrously, and may be set in any soil where other fruits or vegetables cannot be conveniently raised—for example, along the sides of fences, or anywhere where the soil is not as easily cultivated as in the open fields. If given a good chance—as other grains have—it will grow luxuriantly, and will well repay its care; for its yield is many hundred-fold, under ordinary cultivation.

The great "Russian sunflower" is a new thing with us, in this country, and a marvellous improvement upon the old-style seed. The flowers are double the average dimensions of the common South American variety, so well known among us, and, as a bearer, it far excels the latter in the number of large seeds it ripens upon its more expanding and heavier stalks.

The Russian sunflower is, to the American, what the stalk and ear of the field-maize are to the pop-corn variety, in ordinary culture.

Poultry World.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAML. SANDS & SON,

At 128 *W. Baltimore Street, (sign of the Golden Plow,) Baltimore, Md.*

Wm. B. Sands, Proprietor.

Saml. Sands, Wm. B. Sands, } Editors and Publishers.

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Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

NOVEMBER 1, 1877.

Approach of a New Volume.

Another number will conclude the current volume of the *American Farmer*, and the present is a suitable time to call the attention of our friends to the fact, in order to stimulate an early effort to the increase of our subscription list. We seldom have any fears as to the continuance of our present readers, as we know that our journal is taken and *read* by a class second to none other in the department of life in which they are engaged for general intelligence, and as earnest seekers after, and coöperators in, agricultural improvement.

The beginning of a new year is, however, generally esteemed by publishers as the proper time for an extra effort to obtain additions to their lists, and we cannot feel indifferent to the custom, to fail to make the effort, through our friends, to obtain accessions to our subscription list for the coming year.

Never, perhaps, was there a time when agricultural advancement was more necessary than at present; and whilst strenuous efforts are being made in many quarters to introduce new laborers in the field, we feel it but a duty to ourselves and our old journal, to make a strenuous appeal to our friends to aid us at the present moment in extending our circulation in their respective neighborhoods. There is not one of them, probably, but has sufficient influence with his neighbors to add at least one additional name to our list, and but few who could not readily form a club of five, ten, or more, by which they will be able to obtain it at a cost which can be afforded by any one who is capable of reading. At the low price at which we furnish the paper, including the postage, that branch of our business, perhaps, does not pay more than the actual cost of its production, necessitating our dependence upon our advertising support, of which we have a fair share, to remunerate us for our labors and provide for our personal support; but the more extensive our circulation, the greater the demand for our aid in disseminating the advertisements of our patrons.

The last three or four years have been extremely disastrous to publishers in almost every department of literature, and probably no class has felt it more than the agricultural; still we, probably, have suffered as little as the most of our competitors in the race for public favor; and we are confident that the judgment of our friends is, that the intrinsic value of our paper, in every regard, has kept pace with the best of our cotemporaries, and that in no respect whatever have we fallen short. We believe we can say, without vanity, that we have the ability and opportunities to keep the *Old Pioneer* in the van, and we are determined, so long as our lives are spared, to keep it up to the high standard which it has obtained; and, as remarked by the venerable Wilder, in his late address to the Pomological Society at its meeting in this city, that although it was the forerunner of the present host of agricultural papers (having commenced its career in 1819) "it still continues in a green old age." We intend sparing no legitimate means to preserve to it the character which it has obtained through the length and breadth of the land,—its circulation being confined not to a single State or neighborhood, but reaching every quarter of our widely-extended continent. Our correspondents, it is to be seen by our monthly numbers, embrace farmers in all sections.

We therefore make an earnest appeal to our old friends, that they will lose no time in setting themselves to work to aid us in the more general diffusion of our paper. Such of them as are so situated as not to be able to make a personal effort in this direction, can secure the assistance of others, who, for love or money, will enter upon the *good work*, as we verily believe it to be, of disseminating the *Farmer* throughout their neighborhoods.

The three last numbers of the present volume will be sent free to new subscribers whose names

may be forwarded before the 1st January. Our terms, as heretofore, are:

1 copy for 12 months,	$1.50
5 copies for 12 months,	5.00
10 copies for 12 months, and one extra copy,	10.00

Names can be sent on as received, and any additions can be made thereafter to secure the best terms.

An Experiment Station and Fertilizer Control System for Maryland.

The most urgent need of the day for the farmers of Maryland is the establishment by the State of an Agricultural Experiment Station, and they cannot too soon begin to discuss the benefit to be derived from such an institution, and to move to prefer to the next Legislature their very moderate demands for so useful an establishment.

Our agriculture depends very largely and must continue to depend on the use of artificial manures, and it is a matter of prime consideration that the farmers should be enabled to get these not only of undoubted quality but also at the lowest possible price. No system yet devised accomplishes this so easily and yet so effectually as the one to which we now refer, which had its origin thirty years ago in the necessities of the agriculture of Germany, where so apparent have been the advantages that there are now more than three-score of such Stations maintained either by the State, by associations, or as complements to agricultural schools.

The examination of fertilizers offered for sale in the State would be the chief work of these Stations. It is not the only one; but doubtless in this State for a time at least these inquiries would mainly occupy the attention of its chemists. Now this does not involve any opposition of interests between farmers and manufacturers. The day has certainly passed when there should be any antagonism between the two classes. We do not assert that there are not cases where fertilizers of low grade, not to say utter worthlessness, are palmed off on the agriculturist; but as a rule the standard of manufacture by houses of established character is well kept up, a degree of scientific knowledge is directed to their compounding, and a scrutiny made into the composition of materials which has gone on enlarging until a precision and skill are now observed which but a few years ago was unthought of.

Yet in the present condition of our law, where frauds are committed, or are believed to be committed, the farmer practically is without a remedy. Upon the individual rests the burden of proof that the material bought was not what it purported to be. The vexations, risks and costs of legal proceedings have to be borne by him with no certainty but that instead of receiving any recompense for the wrong incurred he may have to foot the bills for lawyers' fees and costs, as well as expenses of analyses, &c.

The Control System remedies all this. The German plan, adopted in Connecticut, as stated by Prof. Atwater, late director of the Experiment Station in that State, consists in essential features of:

1. An agreement made with the Station by dealers in fertilizers to sell their wares by guarteed analysis, the verification of the analysis being left to the Station; and

2. A provision whereby purchasers may have samples of the fertilizers they buy analyzed free of charge.

In other words the agreement is merely that manufacturers agree to state what they sell and guarantee what they state, the verification being left to the official analysis of the Station.

All analyses which are of interest to the public are performed gratuitously, the result being of course held at the service of the Station for publication and general use. Samples may be taken by buyer and seller jointly and forwarded in the names of both parties for analysis.

In 1868 M. Grandeau was appointed by the French Government to examine the German Experiment Stations, and he reported of the Control System that "It is the only way to 'moralize' the trade in commercial fertilizers." It takes the trade out of the domain of government inspections, and of litigation to which farmers cannot afford to resort. "Legal restraint has failed to either educate farmers or elevate the tone of the trade to a level high enough for safety."

In short, the system under consideration insures perfect security, better goods, more lively competition and fairer prices. It insures confidence in the use of fertilizers, the farmer knowing that he is in a large measure his own inspector. It stimulates them to examine the chemistry of fertilizers, to study the needs of their crops and soils. It substitutes for a system of prosecution for frauds, a fair and perfect understanding between seller and purchaser, by establishing a disinterested umpire between them, to whose decisions both agree to submit.

In Connecticut, where the system has been in working force for more than a year, the effect has been to largely stimulate the sale of fertilizers, while it has raised their quality and dimin-

ished the price. A comparison of the cost per pound of the valuable ingredients of fertilizers as sold in 1875 outside of the Station, and of the same as sold in 1876 under the supervision of the Station, shows as follows:

	1875.	1876.
Nitrogen	47 00 cts.	23.00 cts.
Soluble phosphoric acid	18.00	13.98
Insoluble acid	11 36	5.51

Is not a system which will so soon produce such a result worth striving for?

The cost as compared with the benefits is so trifling as to be unworthy consideration. In our next we will return to the subject, and further considerations of its importance.

New Light on Educational Problems.

Mr. Joshua D. Warfield is a gentleman who, until a year or so ago, was, we think, a primary school teacher in a rural district in this State. He was then made a professor in the Maryland Agricultural College, where he teaches "English Literature, Mental Science and History," delivers with other "prominent Agriculturalists" lectures on farm topics, and is, we believe, the general utility man of the establishment. As such he was sent as a delegate from the College to the National Agricultural Congress recently held in Chicago, and his representative capacity entitles to passing notice some opinions offered by him on the functions of agricultural colleges in general, and on the line of work to which it has been decided to limit the one in this State in particular. The report appeared in the *Sun*, whether furnished by Prof. W. we do not know.

"Prof. Warfield, of Maryland, said he doubts if agricultural colleges can in four years give thorough education in science and yet keep the boys at manual labor several afternoons in a week. He thought it more important to give a scientific education than to teach manual labor, believing that the latter dulls the faculties so much that high scientific instruction is impracticable. In the Maryland Agricultural College, after full discussion, it was decided not to make the college simply a practical school, but to teach the languages and science. Manual labor there is voluntary, and will probably never be made compulsory."

If this is by authority, as we suppose probable, what force has the injunction of the stockholders that "instruction in practical and experimental agriculture be made the leading feature in the educational system at the earliest possible moment?" The school, it seems, is now to be made one of high science. What then is to become of the young middies and cadets? Can it be possible they are to be given up before an obstinate public opinion which refuses to see any connection between preparing boys for the farm and for the army and navy, and that, in casting around for new fields, and unable to find the work ready waiting for competent and willing hands, the worship of a new idol is to begin?

"Manual labor dulls the faculties so much that high scientific instruction is impracticable!" Shade of Hugh Miller! What has become of the coördinate development of intellect and muscle, and of the boast that the glory of the highest education is "a sound mind in a sound body?"

Benjamin Hallowell, that great teacher and disciplinarian, was eager for thirty years to see an institution training the muscles and the intellect simultaneously. Robert Beverly, one of the most intelligent and extensive as he is also one of the most progressive and successful of Virginia farmers, pleads eloquently for the education which takes for its motto "science *with* practice," and which will illustrate by example the dignity of labor. Chas. W. Howard, of Georgia, to whose writings on behalf of improved systems of agriculture in the Southern States since the war more is probably due than to those of all other men besides; President Abbott, most experienced of agricultural educators in America; President Anderson, who took the Kansas College in hand, a namby-pamby, undecided, rickety affair, and has in three years made it the most successful and useful institution for industrial education in the Mississippi valley, from its perfect adaptation to the work it has to do; Dr. Minor, who, with Prof. Ellzey and his other coadjutors in Virginia, is building on broad foundations a work for which future generations of her farmers will rise to bless them;—these men hold that it is the duty of those managing agricultural colleges to create in their pupils a bias towards and not from the farm; that this is secured by the habit of manual labor which illustrates their studies and serves as a kind of laboratory practice for instruction, and that to accomplish the legitimate objects of such institution, the student must not, in acquiring a scientific education, lose either the ability or the disposition to labor on the farm.

So, too, in all the successful colleges, manual labor *is* compulsory. In Cornell, a university of magnificent capacity and endowment, the agricultural is the first department, and though it doubtless loses in the number of its pupils by the attractions of the riches of science and literature surrounding it, students "are required to spend three hours two days in each week in field practice and in the handling and feeding of domestic animals, and if this amount of practice does not prove sufficient to make each student

expert in the various operations of the farm, enough additional time will be required of them to accomplish the desired object."

In Massachusetts, "every student is obliged to labor." So in Kansas.

In Michigan, "Each student not exempt from physical disability is required to labor three hours a day (except Saturdays) on the farm or in the gardens."

In Virginia, "manual labor by daily details has been required from the first of every student not physically disqualified."

As opposed to the views of such men and the practice of such schools, we find—Prof. Warfield and the Maryland College!

The Harford Co. Fair

Was this year a decided success, the receipts from visitors, &c., amounting to $3,900, sufficient to pay all the expenses, the premium list, the standing debt, and leave a balance in the hands of the treasurer. The show of live stock, implements and machinery, farm products, household goods, &c., was good; the people took part with great spirit and enthusiasm, and the occasion, take it all in all, was one of general pleasure and satisfaction.

The Frederick Show

Was also largely attended,—especially on the day the President and his Cabinet were present. The exhibits were of more than usual merit and probably exceeded those of some years in numbers.

The Carroll County (and State) Show.

The Carroll County Society struck hands in some way with the State Society, and the show at Westminster from the 16th to 19th October was held jointly. This arrangement seemed to have brought some cattle which would probably not have gone to the county show alone, and enlarged the display by the agricultural implement men, none of whom were willing to be entirely missing from even a nominal State fair. Except in these two classes—and excluding, perhaps, Mr. Fulford's very handsome show of Berkshires, the display was, it seemed to us, rather below than above the average of the Carroll shows. The deposits of farm products, ordinarily very good, and fruits, especially apples, were very far below what we have noticed in other seasons. The samples of grains shown were exceedingly fine of their kind, but there was not the exuberance often seen. The fruit crops, we presume, as in many other parts of Maryland, were probably deficient.

In the cattle stalls there was a very handsome herd of short-horns, shown by Mr. Lewis H. Long, of Mason Co., Ky., and a number not so well bred of Mr. W. J. Morlock, of Carroll. Mr. Sam'l M. Shoemaker, of Baltimore, had his herd of Holsteins and some handsome Jerseys.—Messrs. Clark & Jones, and John E. Phillips, of Baltimore, also had some fine specimens of Herdbook Jerseys, and E. S. Engler some not registered. Mr. John Merryman showed his herd of Herefords, and Mr. Frank Brown a numerous herd of symmetrical Devons, descended from the celebrated Patterson herd. There was but one pair of oxen, (very good ones,) and but few native cattle.

The horse exhibits were not very numerous. There were some thoroughbred and general-purpose horses and two Percherons,—Prince, belonging to Mr. Wm. T. Walters, and Major General, to Mr. F. Brown.

The sheep pens were few in number, but the swine were numerous and good. Mr. Fulford's Berkshires deservedly attracted much attention. Amongst these were the boar Compton, bred by Mr. Cochrane of Canada, Lady Plymouth 1st and 2d, bred by Mr. Swanwick of Cirencester, England, and two of the prize pigs at the cattle-show of the Centennial last year, (shown by Mr. T. S. Cooper,) Smythe to-wit and Queen of Linden, from Heber Humphrey, the noted Berkshire breeder of England. There were a few head of Essex swine, two or three small Yorkshire, (one of them very handsome, bred by Col. R. M. Hoe of N. Y.,) and one pen of Poland-Chinas; there was also a pen of very large and handsome Chester Whites from the county almshouse.

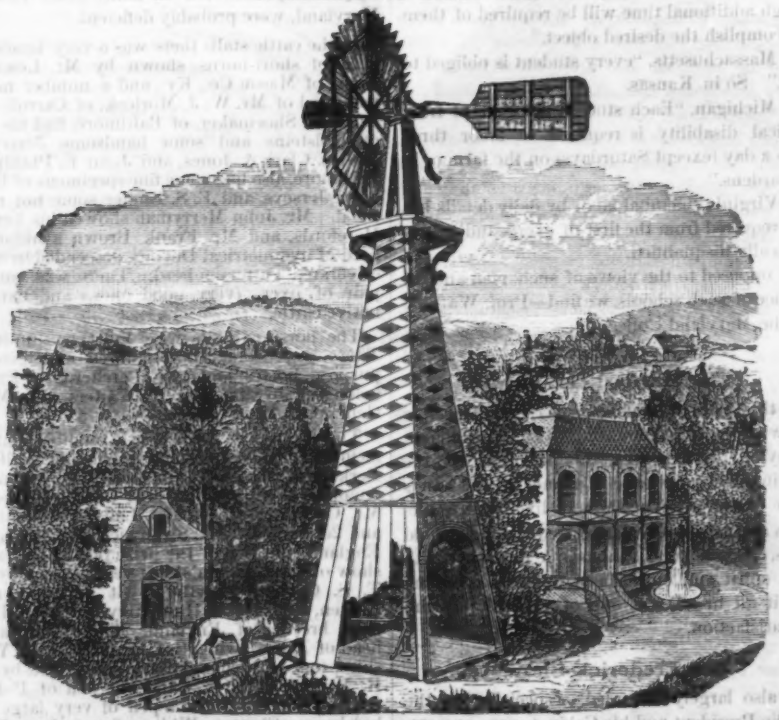
The poultry show was not very extensive, nor the arrangements for its display very satisfactory.

The agricultural machinery and implement show was large and varied. Amongst those exhibiting were Messrs. A. B. Farquhar of York, Pa., E. Wagoner, and the Taylor Manufacturing Co. of Westminster, Steuart & Price of Frederick, Cromwell & Congdon, Joshua Thomas, Linton & Lamott, L. H. Lee & Bro., S. H. Slifer & Co., Geo. Page & Co., and perhaps others, of Baltimore.

Messrs Page & Co. had on the grounds their newly-constructed Traction Engine. It had come from Baltimore over the pike road entirely by its own power, carrying its own fuel and water, and was driving one of the Vibrator Separators. This engine is constructed very much like those of Aveling & Porter of England, and, so far as we know, is the first engine for use on ordinary roads which has been built in this part of the country. For certain uses engines of this kind are certain to supersede horses; and that this one should on its trial trip have worked so satisfactory, is very creditable to the engineering skill of this old house.

In the machinery line nothing probably attracted more notice than the new Champion Mower, with its novel motion. The self-binding Harvester of W. A. Woods & Co. also drew much attention.

Windmills for Farm Use.



One of our correspondents, in the present as well as in a former issue, has given his experience with a windmill on his farm, and there is a disposition to use them more generally than has been the case in the past for various kinds of farm work. The one we figure above is the Eclipse, a mill which is claimed to have many points of superiority over most others,—being simple in principle, noiseless in operation and entirely self-regulating. The agent in Baltimore is Mr. John H. Buxton, 46 E. Pratt street, who also puts up hydraulic rams, pumps, &c., as will be seen from his advertisement on another page. Send for one of his windmill circulars.

The Continental Strawberry.

We give on another page an engraving of this new berry, which was originated by Mr. Oscar Felton, of Camden Co., N. J. and which is now being disseminated by Messrs. Gibson & Bennett, of Woodbury, N. J.

The Continental is claimed to be especially valuable on account of its great productiveness, large size, firm texture, delicious flavor and late seasons of ripening. The fruit is large, obtusely conical, and regular in form. The color is dark red. The cut is engraved from nature and Messrs. Gibson & Bennett say gives a fair idea of the size, form and general appearance of the berries.

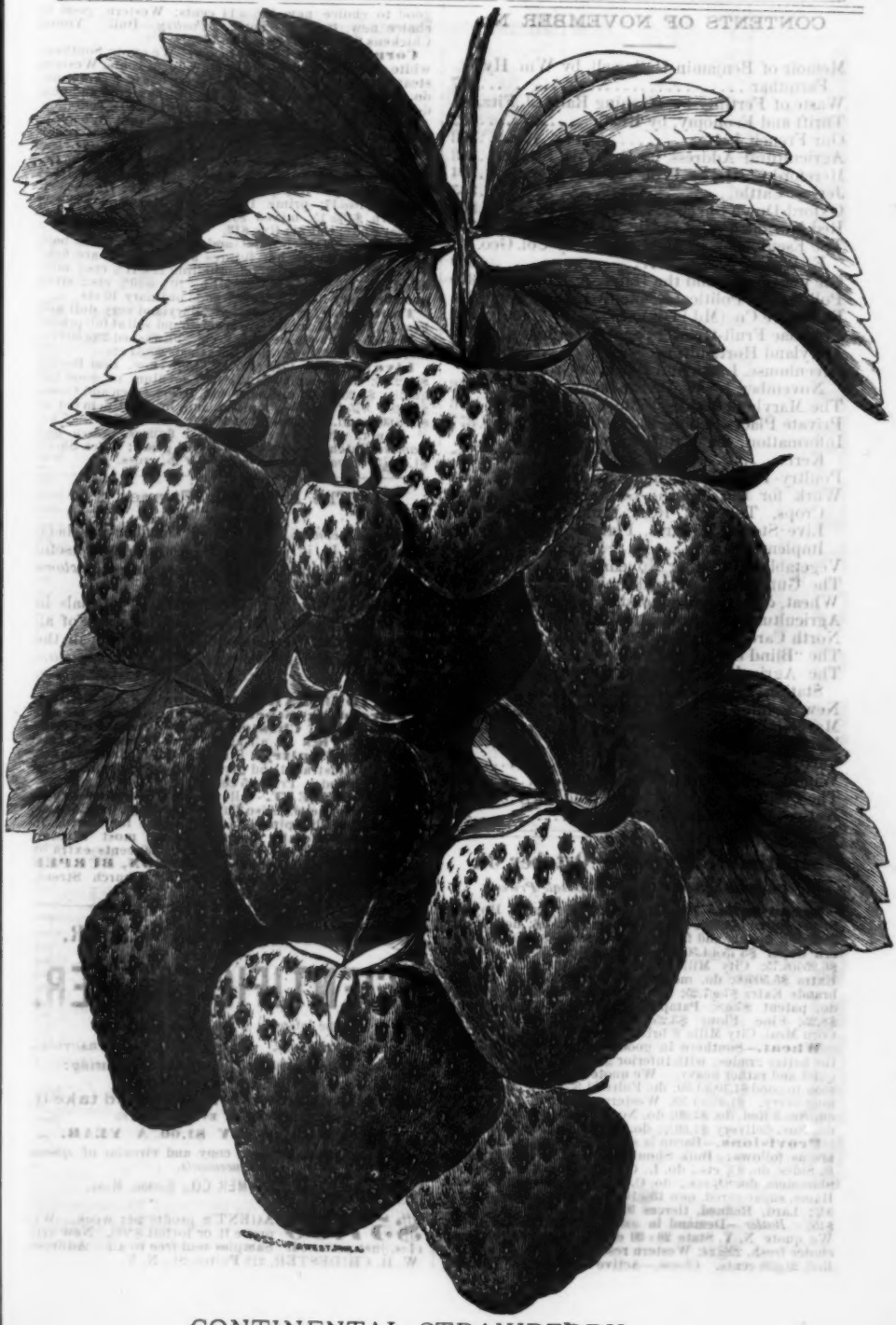
We call attention to the improved stock offered by Mr. T. S. Cooper. The Ayrshire bulls are offered at a very low price.

Lee's Prepared Lime.

We call special attention to the advertisement of L. J. Warren, who, as agent for the manufacturer, offers this material to our farmers. This lime is now, and has been for some time, quite largely used in Virginia, and the circular of Mr. Warren contains favorable certificates from gentlemen well known to us.

Messrs. S. H. Slifer & Co. are new candidates for the patronage of the readers of the *Farmer*. Their stock of agricultural implements, machines, hardware, seeds, &c., are very large and varied.

COMMUNICATIONS RECEIVED.—We are reluctantly compelled to omit a communication from Gen. Giddings on the Grape Question, and another from Nansemond on the Pear Blight,—received too late for this month. They will appear in our next.



CONTINENTAL STRAWBERRY.

CONTENTS OF NOVEMBER No.

Baltimore Markets—October 31.

Quotations given below are Wholesale Prices.

Breadstuffs.—*Flour*—Heavy. We quote Howard Street Super $4.25@4.75; do. Extra $5.25@6; do. Family $6.25@7; do. ch. and fancy trade brands $7.25@8; Western Super $3 75@4.50; do. Extra $5@5.75; do. Family $6.25@6.75; City Mills Super $4@4.50; do. Standard Extra $6.50@8; do. medium Extra $6.25@6.50; do. Rio brands Extra $7@7.25; Spring Wheat Flour $5.75@6.75; do. patent $7@8; Patapsco Family $8.50; do. Extra $8.25; Fine Flour $3.25@3.50; Rye Flour $4@4.25; Corn Meal, City Mills ₱ brl. $3.25.

Wheat.—Southern in good demand and steady for the better grades; with inferior grades lower. Western quiet and rather heavy. We quote Southern Red, common to good $1.10@1.30; do. Fultz $1.32@1.42; do. Amber, long-berry, $1.45@1.50; Western steamer, spot $1.25; do. No. 3 Red, do. $1.30; do. No. 2 do. do. $1.36½; do. do. do. Nov. delivery $1.36½; do. do. do. Dec. do. $1.40.

Provisions.—Bacon is scarce and firm. Quotations are as follows: Bulk Shoulders, packed 7¾@8; do. C. R. Sides, do. 8½ cts.; do. L. C. Sides, do. 8¾@8¾; Bacon Shoulders, do. 8½ cts.; do. C. R. Sides, do. 9¼@9½; do. Hams, sugar-cured, new 13@14; do. Shoulders, do. 9½@9¾; Lard, Refined, tierces 9½@10; Mess Pork, ₱ brl. $15. *Butter.*—Demand in excess of supply for choice. We quote N. Y. State 28@30 cents; Northwestern tub, choice fresh, 22@24; Western reserve do. 20@21; near-by Roll 20@28 cents. *Cheese.*—Active and steady. Eastern, good to choice new 12½@14 cents; Western, good to choice new 12@13½ cents. *Poultry.*—Dull. Young Chickens $3@3; old fowls $3@3.50.

Corn.—Quiet and rather heavy. We quote Southern white, old, 60@61 cents; do. yellow do. 61 cents; Western steamer, spot, 57 cents; do. mixed do. 61@61¼ cents; do. do. Nov. delivery 61¼ cents; do. do. Dec., old and new do. 60@60¼ cents; do. do. Jan., do. do. 60@60¼ cents.

Oats.—Steady and in pretty good demand. We quote Western mixed 31@32 cents; do. bright 33@34 cents; Southern, fair to good, 32@34½ cts.; do. prime 35@36 cts.

Rye.—Dull. We quote good to prime at 63@65 cents.

Hay and Straw.—Receipts large, and the market dull generally. We quote as follows, viz: Hay—Cecil county $16@17; prime Penna. and Maryland $14@16; Western $13@15; mixed $12@14; Clover $12. Straw—Wheat $7@8; Oat $9; Rye $13.

Cotton.—Market quiet and weaker for spots both here and elsewhere, but futures at New York are firm. We quote as follows: good middling 11@11¼ cts.; middling 10¾@10⅞ cts.; low middling 10¼@10⅝ cts.; strict good ordinary 10¼@10⅜ cts.; good ordinary 10 cts.

Tobacco.—Low grades of Maryland very dull and heavy, but good grades are wanted and sell at full prices.

Wool.—Tub-washed 38@40 cts.; unwashed 28@30 cts.; merino do. 25@27 cts.; fleece-washed 32@34 cts.

Live Stock.—*Beef Cattle*—Trade slow. Best Beeves $5.12@6; first quality $4.12@4.62; medium or good fair quality $3.25@4.12; ordinary thin Steers, Oxen and Cows, $2@3. *Milch Cows*—Plentiful and in good demand at $30@60 retail. *Swine*—Prices have fallen off; 6¾@7¼c. ₱ lb. net, with prospect of lower figures. *Sheep and Lambs*—Butcher Sheep 4@5 cts. ₱ lb. gross; Stock Sheep $1.25@3 ₱ head; Lambs 4@5 cts. ₱ lb. gross.

The American Farmer.

The *American Farmer* for October has been received. It is brim full of good and useful information and advice to farmers.—*Newtown (Md.) Record and Gazette.*

Is one of the oldest agricultural journals in the United States. It has stood the crash of all the failures of the past, and now stands in the front rank of journalism.—*Gallatin Tennessean.*

THE AMERICAN FARMER.

SUBSCRIPTION $1.50 a YEAR. 5 COPIES $5. 10 COPIES $10, and an extra copy free.

To Sam'l Sands & Son, Publishers American Farmer,

No. 128 West Baltimore Street, Baltimore, Md.

For enclosed ..... Dollars, send the American Farmer for 1878 to the address below.

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ESTABLISHED 1819.

THE AMERICAN FARMER,

A JOURNAL OF AGRICULTURE AND HORTICULTURE,

Published Monthly by SAM'L SANDS & SON,

No. 128 West Baltimore Street, Baltimore, Md.

Chesapeake Chemical Works.

SALT CAKE. (Sulph Soda.)
KAINIT. (Sulph. Potash.)

OIL VITRIOL

NITRATE SODA.
CHLORKALIUM (Muriate Potash.)

MANUFACTURERS AND MANIPULATORS OF PHOSPHATES

ON ORDERS AND FORMULAS FURNISHED BY

OUR FRIENDS.

To those who want to manipulate their own Phosphates, we offer a full line of PURE MATERIALS.

Having completed extensive improvements and additions to our Works, giving us increased facilities, we are now prepared to execute orders with greater promptness, and deliver goods in much better mechanical condition than heretofore.

We offer to the Trade the following Goods, all of which are absolutely Free from Adulteration:

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

DISSOLVED SOUTH AMERICAN BONE ASH.

DISSOLVED SOUTH CAROLINA PHOSPHATE.

SLINGLUFF & CO.

OFFICE, 155 W. Fayette Street. WORKS, Foot of Leadenhall St.

BALTIMORE.

[Ja-1y]

R. W. L. RASIN & CO.

Chemical Fertilizer Manufacturers,

32 SOUTH ST., BALTIMORE,

Are now preparing the following POPULAR BRANDS OF FERTILIZERS for the WHEAT CROP, containing all the essential elements necessary to the growth of that important crop.

SOLUBLE SEA ISLAND GUANO,

Well-known and of undoubted excellence.

EMPIRE GUANO,

A high-grade Fertilizer of known merit.

Ammoniated Alkaline Phosphate,

An article specially prepared for Wheat, and sold on satisfactory terms to Grangers. Endorsed by the Patrons, who have used it for the past four years. For sale by Grange Agents at RICHMOND, NORFOLK, PETERSBURG, ALEXANDRIA, LYNCHBURG and BALTIMORE.

Raw, Steamed and Dissolved Bones, Potash Salts,

IN STORE AND FOR SALE.

☞ SPECIAL COMPOUNDS PREPARED ON ORDERS.

R. W. L. RASIN & CO.

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BALTIMORE, MD.